

**Conceptual aspects  
management of  
competitiveness the  
economic entities**

**Collective monograph edited by  
M. Bezpartochnyi, I. Britchenko**

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Higher School of Social and Economic  
Przeworsk (Poland) 2019



**Koncepcyjne aspekty  
zarządzania  
konkurencyjnością  
podmiotów gospodarczych**

**Monografia zbiorowa  
pod redakcją naukową  
M. Bezpartochnogo, I. Britchenko**

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The authors of the book have come to the conclusion that it is necessary to effectively use modern approaches the management of competitiveness the economic entities in order to increase the efficiency of using the resource potential, formation of competitive advantages and development strategies. Basic research focuses on assessing the system innovative entrepreneurship, analyzing competitiveness of products, assessing marketing potential and logistics processes, marketing personnel. The research results have been implemented in the different models management of infrastructure, innovation, information systems, social partnership, reengineering business processes, formation the concept management competitiveness of economic entities. The results of the study can be used in decision-making at the level the economic entities in different areas of activity and organizational-legal forms of ownership, ministries and departments that promote of development the economic entities and increase their competitiveness. The results can also be used by students and young scientists in modern concepts and mechanisms for management of competitiveness the economic entities in the context of efficient use the resource potential and introduction of modern innovations.

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## INTRODUCTION

Ensuring sustainable competitiveness of economic entities is an important component of economic security enterprises at the present stage of development. Solving this problem requires the creation of an effective competitiveness management system at enterprises. In the conditions of toughening competition on the commodity markets, increasing competitiveness becomes the main strategic goal of effective function the economic entities. There is an objective need to create a mechanism for management competitiveness at the enterprise level, providing for the search for new ways and methods for the formation of competitiveness in accordance with the conditions of competitive environment. In this regard, of particular interest is the application of concept competitiveness management in solving the problem of creating strategic competitive advantages of the economic entities. The effective use of resources potential as an instrument of optimization management the economic entities opens up broad opportunities for acquiring unique competencies and the formation on this basis of sustainable competitiveness.

The purpose of writing this collective monograph is to substantiate the theoretical-methodological foundations and develop a system for management the competitiveness of economic entities in a change market environment, taking into account the current state of resources potential and economic conditions, as well as the degree of globalization and international economic relations the economic entities.

The object of the author's research is the processes of management the competitiveness of economic entities in the context of resource constraints, the specifics and development trends of economic entities under the influence of factors the internal and external environment, a synthesis of world experience in management the competitiveness of economic entities in order to increase the efficiency of formation and use the resources potential and innovation activities of economic entities in various spheres of national economy in terms of change market conditions.

The subject of research was the various processes of formation and ensuring the competitiveness of economic entities; organizational-economic mechanisms for formation of competitive advantages of economic entities; directions of ensuring the competitiveness of resources potential the economic entities; consideration the practical aspects of management the competitiveness of economic entities in various sectors of the economy; formation and implementation of strategies to ensure effective management of competitiveness the economic entities.

## Chapter 1

# SCIENTIFIC BASES OF FORMATION AND ENSURING OF COMPETITIVENESS THE ECONOMIC ENTITIES

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**METHOD OF  
EVALUATION OF  
THE SYSTEM OF  
INNOVATIVE  
ENTERPRISE IN THE  
CONTEXT OF  
PROVIDING  
COMPETITIVENESS  
IN THE  
AGRICULTURAL  
SECTOR OF  
ECONOMY**

In the current context of business, entrepreneurship provides dynamic economic growth through the interpenetration of the spheres of education, science, and production, upon conditions of the availability and effectiveness of mechanisms of providing it with pioneering and innovative direction. The introduction of innovation is the point of bifurcation, which allows the business entity to reach a qualitatively new level of development and forms a short-term and/or long-term rival advantage. Practical realization of scientific and technological achievements takes place under the conditions of the developed system of innovative entrepreneurship. Consequently, the role of the evaluation system of innovative entrepreneurship, including in the agrarian sector of the economy, is increasing, which will contribute to strengthening the competitiveness of both the economy of the country as a whole and economic entities in particular.

By forming a methodological tool for assessing the system of innovative entrepreneurship in the agricultural sector, it should be noted that at present there are only some methods for researching its

subsystems and assessing innovation activities in the stages of the innovation process in this sector. There are no comprehensive methodological approaches to assessing innovation entrepreneurship as a system.

O. Shpylulyak, S.O. Tivonchuk and S.V. Tivonchuk [1] formed a system for evaluating innovation activity in the agrarian sector of the economy in the main stages of the innovation process (Table 1.1). The researchers also substantiate the importance of defining a comprehensively integrated indicator aimed at assessing the achievements of an enterprise of a certain functional level in the implementation of innovation activities in the overall system of state economic development using additional indicators.

*Table 1.1*

**The system of evaluation of innovation activity in the agrarian sector of the economy in the stages of the innovation process (the methodology of O. Shpiculiak, S.O.Tivonchuk, and S.V.Tivonchuk)**

Stages of Innovation Dissemination	Criteria / Indicators
Creation	Novelty level (high, medium, insufficient) Level of value for science and production (high, medium, insufficient) Level of compliance with the latest domestic or foreign achievements (higher, at the level, lower) The level of demand for innovation (high, medium, low)
Spread	Criteria reflecting the maximum efficiency of bringing information on new knowledge to producers, the achievement of science and technology, measuring this through various channels of its receipt
Mastery	The level of technological upgrading of production by increasing its technological and economic efficiency Increase in productivity and social efficiency Increase in output per unit of production space Improvement of financial indicators and growth of actual profit Preservation of a normal ecological and environmental situation

*Source: Original research by the authors [1].*

Most scholars focus on assessing the effectiveness of innovative entrepreneurship and innovation. So A. Smolenyuk proposes to use an indicator of quasi-rent, which takes into account the potential level of profit from innovations, to assess the effectiveness of innovative entrepreneurship. This also emphasizes the importance of assessing the state of infrastructure development and the scientific potential of innovation entrepreneurship [2]. L. Kruchko notes that the main general indicator of determining the economic efficiency of production of innovative products should be an indicator of annual economic effect, which represents the total savings of production resources received by economic entities in the process of the activity. Among additional indicators is the growth of gross output, crop yields, animal productivity, payback periods of additional capital investments, level of profitability of production, etc. [3].

Today attention is focused on the assessment of innovative susceptibility of agrarian enterprises as part of the theory of diffusion of innovations, while highlighting eight groups of indicators: the adequacy of financial support for innovation activities; system-wide susceptibility; susceptibility of the technological system; the susceptibility of personnel to making changes; structural susceptibility to transformation; development of creative potential (innovative capacity); information susceptibility of the enterprise; and the susceptibility of natural resources [4].

The lack of clear methodologies for assessing innovation entrepreneurship is more closely related to mainstream economic theory, which excludes an innovative entrepreneur from the neoclassical theory of the firm since it is not relevant from the point of view of the problems studied in it. This is due to the stationary nature of modern theories, which are mostly represented by equilibrium models, while the activity of the entrepreneur “is to find a profit opportunity for breaking any equilibrium that causes innovation” (according to J. Schumpeter [5]) or “use opportunities caused by a violation of equilibrium for profit and pressure, under which the economy returns to a state of equilibrium” (according to I. Kirzner [6]).

In addition, according to W. Baumol [7], key barriers in the formation of a systematic methodology for assessing innovation entrepreneurship relate, firstly, to the heterogeneity of innovation, which makes it difficult to create a theory; secondly, to the uncertainty and inconsistency of the activity of innovative enterprises, which make it impossible for enterprises to use precise and simple mathematical

formulas; and thirdly, to the prevalence in the scientific arena of optimization by bringing the system to a satisfactory state, rather than one of maximizing, which is characteristic of innovation business.

Therefore, based on the theoretical postulates of innovation entrepreneurship, we believe that the assessment of the development of innovative entrepreneurship should be conducted through its analysis as a system with the allocation of separate methodological tools for the assessment of subsystems (scientific and educational, transfer and diffusion of innovations, production) and facilities (infrastructure, normative legal support).

Accordingly, we have identified four stages of the assessment of the system of innovative entrepreneurship in the agrarian sector of the economy. It should be noted that they are not discrete but interpenetrating and/or parallel.

The first stage includes an analysis of global indicators of the country's development (studying the position of the country and the agrarian sector regarding the level of development of knowledge of society, innovation economy, and innovation entrepreneurship). The second stage includes analysis of the development, dynamics and functional interconnections of innovative entrepreneurship by subjects and objects of its subsystems. In the third stage, it is necessary to conduct an institutional analysis (legal component) of the environment for the development of innovative entrepreneurship. The fourth stage includes a structural component analysis of the infrastructure supporting innovation entrepreneurship by levels and subsystems of infrastructure (financial, industrial-technological, information-consulting, personnel).

To assess the impact of global trends on the development of innovative entrepreneurship in Ukraine, it is, first of all, necessary to determine the strengths and weaknesses of the country by international indices. The Global Index of Innovation (GII) is the most well-known and detailed index in the world theory and practice of comparative analysis of the level of innovation development of countries. It has been calculated since 2007 by experts from the Swiss Business School (INSEAD), the World Intellectual Property Organization (WIPO), and Cornell University. The advantage of GII is the use of a large volume of international databases (World Bank, World Economic Forum, International Telecommunication Union, etc.), which allows analyzing data by groups of countries with different income levels for a detailed study of the levels of dissemination, promotion, the creation of innovations. In addition, according to N. Bohdan, the results of country

positioning are most useful for comparative analysis, to determine the relative advantages and weaknesses of national innovation systems on the basis of a rich and unique set of data [8, P.33].

Thus, the methodology for calculating GII determines the selection of two groups of indicators:

- Innovation Input SubIndex Index: Institutes, Human Capital and Research, Infrastructure, Market Attraction, Business Attraction;
- Innovation Output SubIndex: knowledge and technology, creativity.

1. Knowledge Economy Index – determines the readiness of the country to build a knowledge economy and takes into account: 1) the index of knowledge (innovation, education, information and communication technologies); 2) economic incentives and institutional arrangements.

2. The Doing Business Index – determines the level of creating favorable conditions for doing business in different countries. We are unanimous with I. Pavlenko that this methodology complements the analysis of innovative entrepreneurship since the initial basic conditions for conducting entrepreneurship is confirmed by the close dependence of the innovative development of the states [9].

Innovative activity, through which innovation entrepreneurship is implemented, is most often analyzed through criteria and indicators that characterize the costs of their creation (financial, labor, etc.) and the results of the creation (for example, the number of patents received, the number of new varieties of plants and animal breeds, etc. ) At the same time, one of the tools of comparative statistical analysis of scientific and technical potential and innovation activity is the formation of scientific and innovation profiles that contain in their structure indicators characterizing all subsystems of innovative entrepreneurship (scientific and educational, innovation transfer, diffusion of innovations, production). Some aspects of the methodological toolkit for constructing scientific and innovative profiles, and assessing the scientific, technological and innovation potential of the regions are highlighted in the works of such scholars as A. Zolotukhina [10], L. Lihonenko [11], A. Frolov [12], and others. At the same time, the issue of generalizing methodological approaches to the formation of scientific and innovation profiles both in the country as a whole and in the agrarian sector of the economy, in particular, remains unresolved.

We support the position that the scientific and innovative profile of the agrarian sector of the economy should reflect the aggregate of

conditions and resources that determine the achievement of certain results of economic development, satisfaction of social and individual needs on the basis of generation of new scientific and technical knowledge and ideas, their dissemination, preservation and use for development and introduction of innovations in the agrarian sector of the economy, as well as the actual results of scientific and technological practices, innovative activities obtained during the investigated period [13]. In this case, it is necessary that all the above indicators are comparable, which makes the comparison of their relative values that take into account peculiarities of socio-economic development of different regions of the country.

With regard to the stage of the dissemination of innovations (which includes their transfer and diffusion), the criteria for evaluating this process are the efficiency of bringing information about innovations to commodity producers, best practices in their use, and the availability of special propaganda. The system of indicators will include: government expenditures on agrarian counseling; the number of agrarian consultants and their specialization; the share of enterprises with regular access to consultants; share of enterprises satisfied with the activities of consultants; share of state subsidies to repay the cost of counseling; the share of enterprises that have access to Internet resources, etc. Equally important are such innovation-oriented indicators as the share and quality of services for innovation; the number of different methods and methods of counseling; the professional development of consultants; the quality of the legislation on the protection of intellectual property, etc. [14, p. 16].

The main factor influencing the introduction of innovations into production is the innovative activity of agrarian enterprises, which involves their purposeful activity in the generation, creation, development, and production of agro-innovations and intellectual property objects (patents, licenses, etc.). Since innovation activity (including innovative activity) in the agrarian sector of the economy is not subject to state statistical observation, we propose to evaluate it on the basis of monitoring special scientific literature and surveying managers of active agrarian enterprises using the questionnaire method.

In the third stage, an assessment of the level of development of innovative entrepreneurship involves the implementation of institutional analysis, which in general takes into account the assessment of the organizational, legal, administrative, and political environment, in which the development of innovative entrepreneurship and the adaptation to

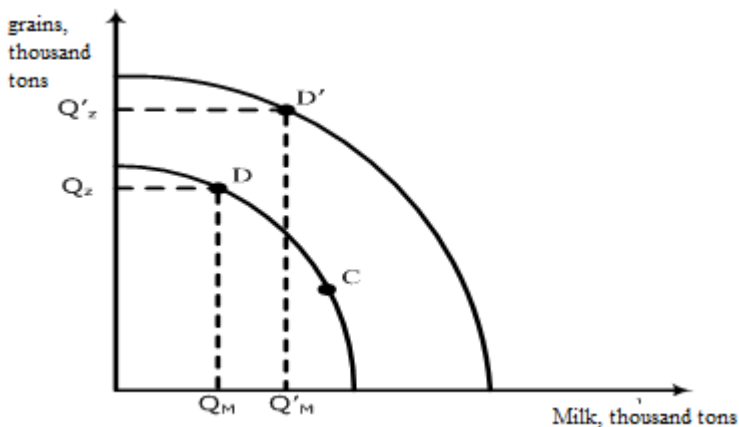
this environment will be implemented. The object of scientific research of institutionalism is the formal and informal institutions (rules, norms, traditions, organizational achievements of past periods of life, codified normative legal acts, which are formed in the process of evolution of the system and mechanisms of socio-economic development) [15]. Under the conditions of proper state support for innovative entrepreneurship, economic development takes place more intensively after economic cataclysms and thus creates institutional conditions for an efficient economy.

A key player in innovation entrepreneurship, which plays a crucial role in transforming new knowledge (innovations) into innovation, and thus enhances efficiency and competitiveness, is an entrepreneur-innovator. Theoretically, entrepreneurs, differing from managers who make decisions mostly about traditional business models, are divided into replicators and innovators. According to M. Henrexon [16], from the Stockholm School of Economics, the actions of replicative entrepreneurs push the economy upwards towards the existing boundary of the production capacity curve (Figure 1.1) (from point C to point D), changing only the ratio of priorities in production. At the same time, innovative entrepreneurs shift the boundary of the production potential of the economy (point D) with their efforts, changing the number of resources and the effectiveness of their use. Thus, the task of innovative entrepreneurs (in practice, they can simultaneously be managers) is finding new ideas and implementing them, in practical activities, which is the result of the vision of the shortcomings of current activities and awareness of their hopelessness for the future.

Thus, in our opinion, an obligatory component in the assessment of the development of innovative entrepreneurship is the study of the system of goals and values of modern entrepreneurs in the agrarian sector of the economy. Indeed, a different system of goals and values of entrepreneurs leads to unsustainable innovation development.

The scientific and educational subsystem, defined by us as the basis in the system of innovative entrepreneurship, is providing for the development of innovative entrepreneurship since it forms an innovative type of thinking for future specialists. Education and science should become key integrators of the intellectual and innovative provision of economic actors. In order to assess their impact on the development of innovative entrepreneurship in the agrarian sector of the economy, we consider it expedient to use the following indicators: the proportion of innovation disciplines in the work curricula of agricultural institutions of





**Figure 1.1 Moving the productivity curve of the agrarian sector of the economy under the influence of the development of innovative entrepreneurship**

*Source: Original research by the authors [16]*

higher education in Ukraine; assessment of the type of thinking students (innovators, adapters) in conjunction with the assessment of their entrepreneurship; assessment of the influence of innovation activity of research institutions on the development of innovation entrepreneurship, etc.

Thus a comprehensive approach is needed when defining the methodology of assessing the system of innovative entrepreneurship in the agrarian sector of the economy. It provides a combination of different indicators and indicators, and tools of statistical analysis: from assessing the strengths and weaknesses of the country in terms of innovation development by international indices to assessing the system of goals and values of modern entrepreneurs in the agrarian sector of the economy, as well as taking into account a number of indicators for evaluating the transfer of innovations and their diffusion and assessing agrarian education and science as the main impetus of innovation entrepreneurship.

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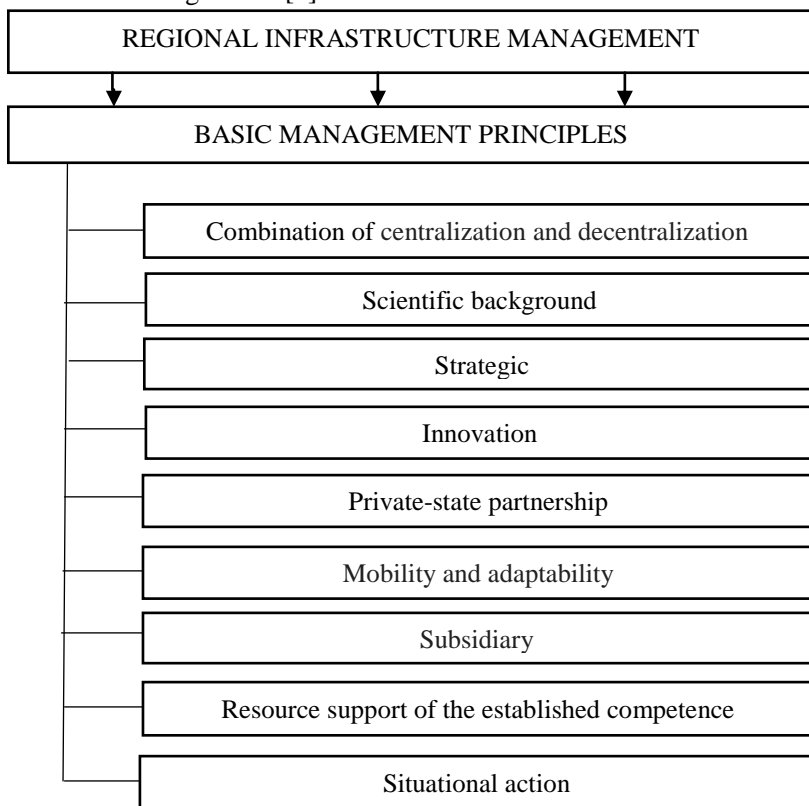
*(Odessa, Ukraine)*

**REGIONAL  
INFRASTRUCTURE  
MANAGEMENT SYSTEM  
FOR PROVIDING  
COMPETITIVENESS OF  
ECONOMIC ENTITIES**

Competitive and dynamic development of economic entities is possible only by virtue of full realization of existent regional potential, the main element of which is the infrastructure. Methodical approaches to manage the development of the regional infrastructure should always have an idea of the economic entities' potential. Nowadays, the effectiveness of methods of managing the region's infrastructure in the domestic-Ukrainian area is being evaluated in terms of increasing its competitiveness on the one hand, and on the other hand in terms of volume of economic entities entry into the system of world economic

relations and processes, taking into account the conditions and external factors, increase or permanent preservation of economic entities' competitiveness, as it naturally leads to an increase in the quality of life and well-being of the population of the region. In this case there is no way to make it through without application of methods for managing the region's infrastructure based on the use of modern trends in economically developed countries. These regularities influence the formation of regional government in Ukraine and its most important principles, content, orientation at the present stage. The main principles of managing the regional infrastructure are: decentralization, partnership, subsidiarity, mobility and adaptability, the principle of competence. [1]

The set of modern principles regional infrastructure management is illustrated on Figure 1.2 [2].



**Figure 1.2 Basic principles of regional management**

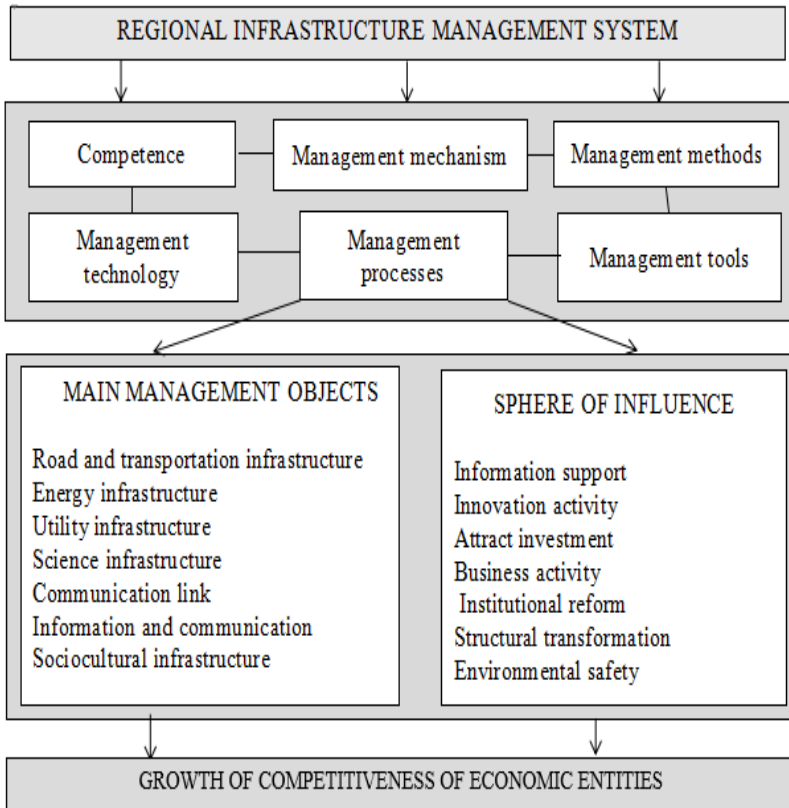
The carried out researches and generalizations give an opportunity to determine a number of the most important tasks, which economic entities faces while managing: reducing transport costs in the economy and speed-up of goods movement provides the effective modern transport infrastructure development; increasing the accessibility of transport service for people; increasing of competitiveness of transport services in Ukraine and realization of transit potential of regions and country; increasing of comprehensive security and stability of transport system; increasing of integrated security control system for transport; development of routes (railway lines, public highways, inland waterways); construction of railway lines and highways for optimization of high-speed passenger traffic; development of the airport network (airport hubs, interconnecting airports and local airports); increase of capacity of Ukrainian seaports; complex development of transport hubs together with logistics centers; increase of competitiveness of international transport corridors; renovation of fleet of vehicles, sea and river fleet's warehouses; formation and working out of mechanisms of project management of investments [2].

The modern state of development has led to the fact that the direct influence possibilities of regional authorities on economic entities has been essentially reduced. Direct management is possible only with regard to organizations of state ownership, and only within the permissible limits. If economic entities are influenced by other forms of ownership or organization, where there is a certain share of state property, then such influence should be only mediated. The task of organization of regional infrastructure management is legitimate, because all the departments and organizations, located in its territory, are involved in the development and activity of the region in any case. In this regard, coordination of their efforts and business activity are required [3]. It implies the existence of a certain regional management system. It should be noted, that the concept of "management system of regional infrastructure" has not been clearly defined and clearly reflected yet in connection with its particular focus.

Based on the theoretical foundations of management and modern management directions [1, 4], it is possible to formulate that the management system of the regional infrastructure is a set of components that includes administration, strategic objectives, principles, tasks and functions, structures, resources, methods, competencies, technologies and tools, closely interconnected different subsystems, forming a mechanism for influencing on the potential of economic entities, its

reproductive potential, which determines the conditions of life of the population, economic and social processes in order to improve the competitiveness and quality of life of the population. Competence is a distinctive feature of this definition; it is a combination of all the main components, the designation of the mechanism of influence as the main component of the management system of the regional infrastructure, the establishment goals of competence is to increase the competitiveness of economic entities.

The structure of the conceptual model of the regional infrastructure management system can be presented on Figure 1.3.



**Figure 1.3 Regional infrastructure management system**

Components of management system: competencies, management mechanisms that play key roles in the current conditions of dynamic innovative development of economic entities. It can be concluded that the management mechanism is formed precisely through the system of regional management and by means of the main elements: the actions of management bodies, management tools, target guides, methods, principles, technologies, structures, resources, competencies, functions.

It can be stated that the control mechanism can't exist without such system components. But at the same time, the management system doesn't exist without a control mechanism, because the management system can only be highly dynamic and characterized by certain changes, and it can't be static. This model reflects a set of components and their interconnections in the system of management of regional infrastructure, clearly represents the main objects of management, actual areas of influence and goals. The regional infrastructure management system can be influenced by external factors: a changing economic situation; state social and economic policy and state regulation, modern achievements of national and foreign management, state bodies of government.

The modern management system requires the study of the theoretical foundations of formation and functioning, which makes it possible to identify a number of features that characterize the ideal system, namely: flexibility, adaptability, mobility; complexity of the scope of problems to be solved (economic, social, organizational, financial, ecological, etc.); rational implementation of specific potential; effective use of new management tools; decentralization of management and strengthening of horizontal connections; rapid reaction to various changes in the internal and external environment; activation of creativity, innovation, initiative; stimulation of business activity, assistance of entrepreneurship; introduction of strategic planning; the ability to formulate social consolidation in the regional community [4].

The special principles of regional infrastructure management, as well as the developed model, form a certain theoretical basis, according to which the modern regional infrastructure management system must meet the following requirements:

- to carry out science-based definition of purposes, regulation and stimulation of the region development in accordance with market conditions of economic activity and national social and economic policy;
- to provide internal consolidation of the regional economy, integrity,

balance;

- to form the adaptability and flexibility of the regional economy and the effective realization of its own special potential;

- to improve a number of factors for expanded social reproduction at its various stages;

- to ensure balance, integrity, internal consolidation of the regional economy;

- to provide and participate in the formation of an innovative model for the development of regional economy;

- to realize its potential effectively;

- to use optimally a combination of factors of social production at its various stages;

- to coordinate the changes in the structural adjustment of the regional economy;

- to determine the strategy of the region's development and organize the implementation of strategic plans;

- to increase the competitiveness of the region, to establish a favorable interregional cooperation, to participate actively in the system of inter-economic relations.

The main principles of regional infrastructure management are the following: a balanced combination of centralization and decentralization; scientific validity; strategic; innovation; private-public partnership; mobility and adaptation; subsidiarity; resource support of the established competence; situational action [7].

Formation of the model of the modern regional infrastructure management system will increase in practice the efficiency of the functioning of economic entity, enter successfully into the global processes of social development and ensure an increase in the quality of life of the population.

Using the theory of I. Ansoff [5], where he distinguished three types of management, in connection with different situations in the external environment, it is possible to get three methods of managing economic entities: - management based on the extrapolation of trends, which is used in conditions of relatively low degree of instability ; management based on the prediction of change, applied at medium values of the instability degree; management based on the flexible expert estimations and decisions (task ranking, control of weak signals, management in the conditions of accidents), which is used in conditions of significant instability of the environment.

The last type of the management is the best for the business entities



in the present-day conditions. It allows to meet unexpected changes being prepared, in advance, prevent negative irreversible phenomena. Such an approach becomes relevant due to crisis phenomena when its possible consequences are not good seen. However, it is needed a good professional knowledge, analytical abilities and practical experience of the managers and experts of the regional management establishment to use efficiently this approach.

Today, it is vivid that only highly skilled business entities can cover the development of the region economy in all its diversity and multi-levels and create all methods and conditions to increase competitiveness. The modern management system must be consisted of the following: cultural, competency, cognitive and creative compounds their coordination between each other and between traditional elements (resources, means, methods) planning and realization; increasing and development of the intellectual recourses in the regional infrastructure management system; create interconnected multilevel validation of the region infrastructure development. It includes the infrastructure of the separate city, region, area and whole country.

Finally, every specific business entity development is dependent on long-term decisions and projects of the local companies, big corporations, municipal, regional and government authorities. That is why different kinds of the regional infrastructure should coordinate the directions of their development with the authorities in every level to improve competitiveness of the business entities. Later, it is necessary to pay attention on the development of the regional infrastructure management.

Key principals of the infrastructure management development [6]:

- Systematic approach to create conditions of the perspective regional infrastructure development and its separate spheres, sectors, branches in all levels of management;
- Constant improvement of the system of the multilevel divergent territorial planning with calculation of the region specific and volatile external and internal conditions;
- Advantage of the creativity in working out, realization, correction of the plans of infrastructure development;
- Systematic use of the above-mentioned principles allows to create modern level of the management in the business entities and helps to solve actual tasks of the development and increasing of the competitiveness.

It is possible to define specific principles of the organizational

institutional development of the regional infrastructure management on the basis of the general ideology of the management and basic principals of the regional management and key principals of the regional infrastructure management. Also, take in account, general methodological priorities of the development in business entities management system in the following: correspondence to the conditions of the modern level of the society level, orientation for perspective; systematic institutes influence; value of the new knowledge, competency of the managers and experts; necessity to follow ethic aspects. The importance of the economic and social institutes is often underestimated in the practice of the organizational reforms, because main rules and mechanism of the progress movement is established on the government level. However, in development of the business entities management plays such factors as: quality of the civil society; business society activity; traditions, correspondence of the economic institutes to the modern conditions.

Thus, using fuzzy-set theory and principals of the regional infrastructure management [7] formed regional infrastructure management system as basis to create scenarios of the business entities development (Figure 1.4).

The listed specific principles are one of the foundations of a methodology for creation of scenarios for development of economic entities. Organizational-institutional methodology for development of a regional infrastructure management system includes an integrated set of management methods such as privatization, public-private partnerships and innovative management approaches (for example, intelligent transport management systems).

When applying the methodology of the organizational-institutional development of the regional infrastructure management, it will be important to create a program for the development of economic entities that will be based on modern principles and methods of management, include its modernization and take into account the specifics of the regional infrastructure and features of external environment.

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Principles of management of regional infrastructure (balanced combination of centralization and decentralization, scientific substantiation, strategic, innovation, private-public partnership, mobility and adaptability, subsidiarity, resource provision of the assigned competence, situational action).

Specific principles of organizational and institutional development of the regional infrastructure management system: systematic organizational and institutional transformation at all levels; balance of institutions that provide development of the management system and innovative development of the infrastructure of the region; the compatibility of changes in the infrastructure management system with the level of development and the state of the regional community, its mood and willingness to accept transformation; effective system of knowledge, cognition, competence, creativity, learning; creation of complex information security of the infrastructure management system and reliable feedback; maximization of the internal potential of the system in the conditions of innovative transformations; control of progress, main parameters and results of changes.

Scenarios for the development of business entities

**Figure 1.4 Systematization of the principles of regional infrastructure management based on unclear sets**

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**INNOVATIVE  
APPROACHES IN  
DEVELOPMENT  
OF FUNCTIONAL  
PRODUCTS FOR  
RESTAURANT  
HOLDINGS**

The priority direction of development of the sphere of restaurant services is to bring their quality to international standards and to improve technologies, introduction of new types and forms of service, which will allow to more fully meet the needs of customers. The key to the efficiency of the food industry and restaurant industry is the implementation of resource-saving and competitive technologies. The state's nutrition and health policies can make a significant contribution to preventing premature death and disease. Improving the nutritional structure of the population of Ukraine is the improvement of traditional and creation of the latest technologies of functional products[1].

Nutrition plays a major role in human life and has a significant impact on health, because it ensures the development of the body, efficiency, protects against harmful environmental conditions, is a way of prevention and treatment of diseases [2].

In the post-industrial society, the awareness of the population on nutrition, organization of functional nutrition on the background of a sharp increase in population mobility is significantly increased. The

population worries about their health and tries to eat high-quality food, which does not harm their health and only bring benefits. This puts increased demands on the level of service in catering establishments [3].

For restaurants, the important task was the development and introduction into production of technologies of products of functional purpose.

The functional products reduce the risk of disease through prophylactic action, accelerate recovery through balanced composition, enrich the diet with the necessary vitamins, minerals and other nutrients, increase endurance of the body, provided for use by all groups of the population. [4]. They are a component of dietary rations, and their positive effect on the body is due to the presence of functional ingredients in their composition, which has a beneficial effect on the physiological functions of the organism. Functional products are created on the principles of food combinatorics by selecting the main ingredients, additives, the combination of which ensures the formation of not only high organoleptic and physico-chemical parameters, but also a given level of biological and energy value [5].

The places of restaurant establishments which begin to embody the idea of a healthy lifestyle are high quality restaurants (sector "fine dining"). Their menu consists of healthy food, no extra fats, preservatives and other nutritional supplements. Roasting and marinating is not used. Baking, cooking and steaming are predominant. Eating in high quality restaurants can be based on offers such as the menu of balanced organic foods; vegetarian cuisine; Vedic cuisine, etc. Many restaurants specialize in the manufacture of all eco-friendly food and beverages; have a wide range of health-improving drinks in the menu: phyto-tea; The presence of low-calorie dishes and drinks, for example, is supplemented with special cocktails menu with different healing properties. These are cocktails that serve as immunomodulators, detoxicants, energy engineers [3].

The places of restaurant establishments are trying to enter such foods in a diet, because when they are consumed, the body receives the various nutrients it needs, and they also strengthen immunity. Functional products include previously studied vegetable ingredients that are indispensable for humans. Introduction to the production of functional products allows you to produce food products enriched with essential amino acids, trace elements, vitamins, food fibers, etc. [6].

The recipes have been developed and the technologies of production of food products from freshwater fish with the addition of vegetable raw

materials (“Fish cutlets with cauliflower”, “Fish schnitzels from broccoli”, fish breads “Kale”) have been improved, samples of these products have been tested and introduced in production conditions of LLC “Arco” Kyiv.

New fish cuisine can be recommended for restaurants that specialize in a menu of functional dishes. The introduction of such products can increase the competitiveness, improve the image of the institution [7].

As a fish raw material, freshwater fish (pike perch) are selected, which is more accessible, because it can be grown in the water bodies of Ukraine.

Of all kinds of freshwater fish, pike perch has a low fat content and high levels of protein, therefore pike perch is considered to be dietary (Table 1.2) [8].

Table 1.2

**Nutrient composition of pike perch [8]**

<i>Macroelements (mg)</i>						
K	Ca	Mg	Na	S	P	Cl
280	35	25	35	188	230	50
<i>Microelements (mkg)</i>						
Fe	I	Mn	Cu	Ni	Cr	Zn
500	5	50	110	6	55	700
<i>Vitamins (mg)</i>						
A	E	C	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>6</sub>
0,01	1,8	3,0	0,08	0,11	1,0	0,19

Pike perch on the contents of essential amino acids is not inferior to other species of fish, and the content of isoleucine, methionine and cystine exceeds their content in the cabbage, lily, carp, which indicates the high biological value of pikeperch meat [8].

In the development of new recipes of fish culinary products used cabbage blossom (*Brassica oleracea* var. *botrytis*), broccoli (*Brassica oleracea* var. *italica*). Table 1.3 shows the intramuscular composition of different types of cabbage [8;9]. It can be seen from the data in the table that the content of the main nutrients in the cabbage of cauliflower, broccoli and Calais in most of the components exceeds their content in white and *Brassica oleracea*.

The protein of these types of cabbage approaches the biological value of proteins of perfected products.

Table 1.3

**Nutrient content of various types of cabbage [8; 9]**

	<i>White cabbage</i>	<i>Cauliflower</i>	<i>Broccoli</i>	<i>Calais</i>
Proteins (g)	1,8	2,5	2,84	2
Fats(g)	0,1	0,3	0,37	0,1
Carbohydrates (g)	4,7 (2,2)	4,2 (2,1)	6,64 (2,6)	6,0 (0,5)
β-carotene(mg)	0,02	0,02	0,39	0,25
Vitamin B1(mg)	0,03	0,1	0,07	0,04
Vitamin B <sub>2</sub> (mg)	0,04	0,1	0,2	0,03
Vitamin B <sub>6</sub> (mg)	0,1	0,2	0,2	0,2
Vitamin B <sub>9</sub> (mg)	0,01	0,023	0,064	0,01
Potassium (P) (mg)	300	210	316	230
Vitamin C (mg)	36,6	48,2	89,3	31
Calcium (Ca)(mg)	48	26	47	40
Magnesium (Mg) (mg)	16	17	21	14
Phosphorus (P) (mg)	31	51	66	34

Table 1.4 shows that the white cabbage, Broccoli and Calais is full, contains all the essential amino acids that are close to the proteins of the normal products.

Thanks to the introduction of cabbage to traditional recipes of culinary products from fish, they are enriched with macro- and micronutrients, vitamins, and food fibers. By partially replacing fish meat with cabbage, the caloric content of the products is reduced.

The composition of cabbage vegetables includes the substance sulforaphane, which according to the International Cancer Research Institute (International Agency for Research on Cancer, IARC prevents the formation and development of cancer cells [10]. In addition to sulforaphane, these types of cabbage contain such anti-inflammatory substances as indole-3-carbine and synergin. The first activates the ability of the immune system to resist the formation of cancer cells, while the second significantly reduces the risk of tumors, provides antioxidant protection, preventing cell damage by free radicals of oxygen [11].

It is established that the proposed cabbage raw material positively affects the quality of fish culinary products. They have attractive exterior finishes, the right shape, a pleasant color, juicy, delicate consistency, garmonious smell and taste. The mass fraction of dry

Table 1.4

**Comparative characteristics of the amino acid composition of cauliflower, Broccoli, Calais and products of animal origin (mg/1g protein)**

<i>Amino acid</i>	<i>Brassica oleracea</i>	<i>Broccoli</i>	<i>Calais</i>	<i>Buckwheat</i>	<i>Chicken egg</i>	<i>Chicken's meat</i>	<i>Pork</i>
Valin	59,60	61,6	59,6	47,6	60,48	48,1	55,6
Isoleucine	50,30	52,30	50,30	43,7	47,0	38,07	47,5
Leucine	59,60	59,0	59,6	78,6	85,11	77,5	75,4
Lizin	64,32	61,0	64,3	24,7	71,10	87,2	79,9
Methionine + Cystine	42,1	41,2	42,1	36,7	56,45	38,1	37
Tryptophan	13,65	11,6	13,6	10,7	16,06	16,0	13,4
Fenilalanin + tyrosine	70,3	68,6	70,3	78,6	81,34	76,1	73,9
Treon	41,3	43,3	41,3	30,6	48,03	48,6	47,1

matter in the developed samples of fish culinary products is less than in prototypes. This improves the organo-lepidine performance of new products, namely consistency – it becomes juicy. Also, the mass fraction of fat is reduced, therefore, new fish cuisines can be recommended as a product in dietary nutrition.

The biological value of the developed products is calculated by the method of amino acid acceleration.

Gives an example of the calculation of the amino acid-fast of fish cuisine products “Fish Chives with Cauliflower”.

The first limiting amino acid is Valin (AC= 90,9 %), thus, the protein of the fish cutlet with cauliflower is digested on 90,9%.

Standard and original indicators have been determined for the quantification of quality. Standard quality indicators – organo-lepido, physico-chemical indicators, safety indicators, and microbiological ones. The original indicators include the content of proteins, carbohydrates, fats, minerals, vitamins.



Table 1.5

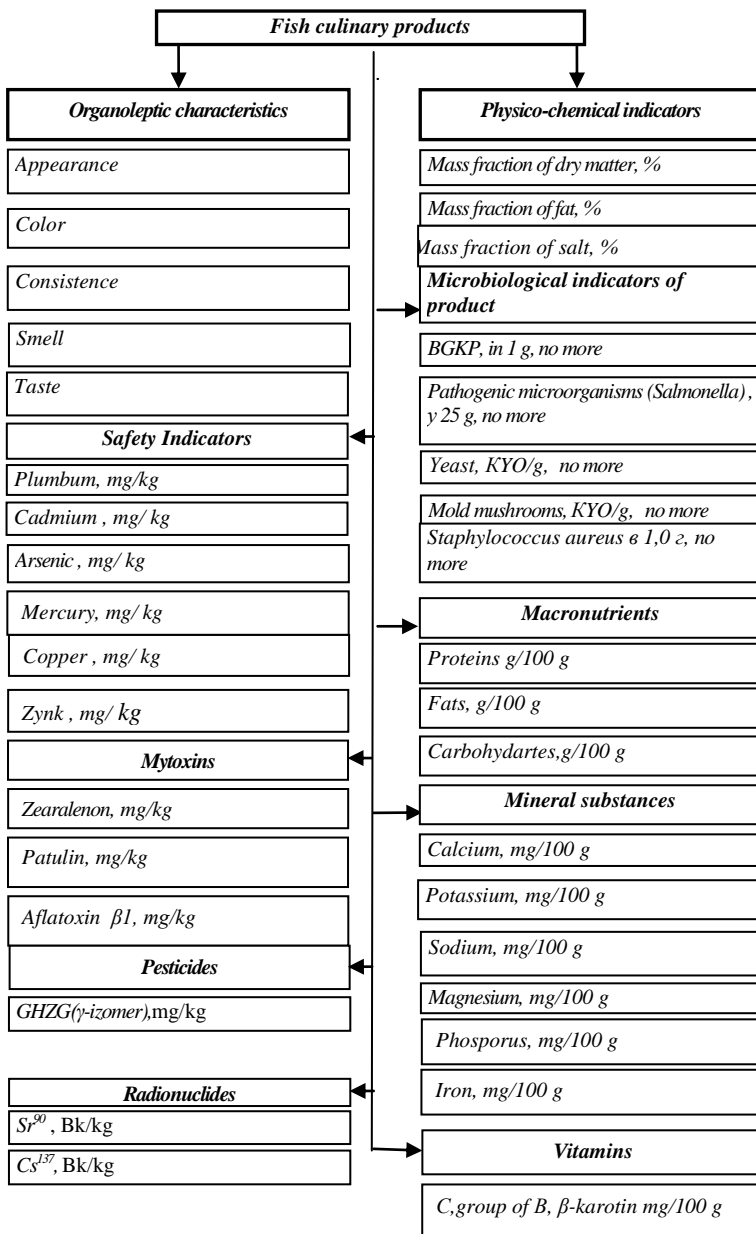
**Amino acid fasting fish fish cutlets “Fish cutlets with cauliflower”**

<i>Amino acid</i>	<i>The contents of AK in the ideal protein</i>	<i>The contents of AK in chops</i>		<i>Amino acid fasting, %</i>
		<i>mg/100g</i>	<i>mg/1g of protein</i>	
Valin	50	342,8	45,7	90,9
Isoleucine	40	336,6	44,8	111,8
Leucine	70	532,5	70,9	101,2
Lizin	55	490,0	65,3	117,9
Methionine + Cystine	35	284,3	37,8	107,8
Tryptophan	10	154,8	20,5	201,3
Fenilalanine + tyrosine	60	528,6	70,4	116,3
Treon	40	287,5	38,3	95,0

In the new product “Fish Chops with Cauliflower” the content of calcium increased by 1.7 mg, iron by 0.29 mg, vitamins B1, B3, B6 C,  $\beta$ -carotene (mg) by 0.011; 0.26; 0.07; 11; 0.5 respectively. Fat content decreased by 0.5 g, food fibers - increased by 2.7 g.

Thus, samples of developed fish cooking products are covered with certain organs: “Fish cutlets with cauliflower” (calcium, iron, vitamins B, C,  $\beta$ -carotene), “Fish schnitzels with cabbage Broccoli” (potassium, calcium, iron, phosphorus, vitamins B, C,  $\beta$ -carotene). Partial replacement of pike perch fillet on cabbage vegetables has led to a decrease in the fat content of samples “Fish Chives with Cauliflower”, “Fish Shinnitsely with Cabbage Broccoli” – by 13.9; 13.9% respectively. The introduction of vegetable raw materials into traditional recipes of fish cutlets, fish schnitzels enriched samples of new products with food fibers (from 16 to 23%).

Consequently, new types of fish and vegetable culinary products can be recommended for specialized restaurants of the restaurant industry as functional products. The introduction of such products into the menu will increase the efficiency of the operation of enterprises in the restaurant industry.



**Figure 1.5 Hierarchical structure of quality indicators**

The Harrington method provides a comprehensive assessment of the quality of fish culinary products. This method involves 5 intervals, in the marginal scale of the scale from 1 to 0: 1,00 ... 0,80 - very good (excellent); 0,80 ... 0,63 - good; 0,63 ... 0,37 - satisfactory; 0,37 ... 0,20 - bad; 0,20 ... 0,00 - very bad.

Table 1.6

**The scale of the nodal values of the quality indicators of fish cutlets  
“Fish cutlets with cauliflower”**

Metric name, unit of measurement	Grade $K_i$					
	1,00	0,80	0,65	<b>0,37</b>	0,20	0,00
	Coded value $IN$					
	3,00	1,50	0,85	<b>0,00</b>	-0,50	-3,00
1	2	3	4	5	6	7
<b>Organoleptic indicators</b>						
Appearance	5,0	4,0	3,0	<b>2,0</b>	1,5	1,0
Colour	5,0	4,0	3,0	<b>2,0</b>	1,5	1,0
Consistence	5,0	4,0	3,0	<b>2,0</b>	1,5	1,0
Smell	5,0	4,0	3,0	<b>2,0</b>	1,5	1,0
Taste	5,0	4,0	3,0	<b>2,0</b>	1,5	1,0
<b>Physico-chemical indicators</b>						
Mass fraction of dry matter, %	21,8	22,1	22,5	<b>22,9</b>	23,7	24,5
Mass fraction of fat, %	1,75	1,8	1,9	<b>2,02</b>	2,5	3,0
Mass fraction of salt, %	0,35	0,4	0,45	<b>0,5</b>	<b>0,7</b>	0,8
<b>Safety Indicators</b>						
Plumbum, mg/kg, no more	0,03	0,05	0,07	<b>0,1</b>	0,2	0,5
Cadmium, mg/kg, no more	0,005	0,01	0,02	<b>0,03</b>	0,2	0,4
Arsenic, mg/kg, no more	0,001	0,005	0,01	<b>0,05</b>	0,2	0,6
Mercury, mg/kg, no more	0,001	0,002	0,003	<b>0,005</b>	0,1	0,3
Zynk, mg/kg, no more	2,0	3,0	4,0	<b>5,0</b>	7,0	9,0
Copper, mg/kg, no more	0,05	0,1	0,3	<b>0,5</b>	1,0	1,4
<b>Mikotoxics</b>						
Zaarenol, mg/kg, no more	0,0	0,3	0,6	<b>1,0</b>	1,5	2,0
Patulin, mg/kg, no more	0,0	0,01	0,03	<b>0,05</b>	0,1	0,2
Aflatoxin $\beta$ 1, mg/kg, no more	0,0	0,001	0,003	<b>0,005</b>	0,01	0,02

Table 1.6 (continued)

1	2	3	4	5	6	7	
<b>Pesticides</b>							
GXII(G ( $\gamma$ -isomers), mg/kg, no more	0,0	0,01	0,5	<b>1,0</b>	1,5	2,0	
Heptachlor GFH (heptachlor epoxide), mg/kg, no more	0,0	0,0	0,0	<b>0,0</b>	0,0	0,0	
<b>Radionuclides</b>							
Cs <sup>137</sup> , Bk/kg	10	200	400	<b>600</b>	800	1000	
Sr <sup>90</sup> , Bk/kg	10	100	150	<b>200</b>	400	600	
<b>Microbiological indicators</b>							
Number of MAPAnM in 1 cm <sup>3</sup> , KUO, no more	1·10	5·10	5·10 <sup>2</sup>	<b>5·10<sup>3</sup></b>	2·10 <sup>4</sup>	5·10 <sup>4</sup>	
Bacteria of the E. coli group in 0,1 cm <sup>3</sup> , no more	0,0	0,0	0,0	<b>0,0</b>	0,1	0,3	
Staphylococcus aureus в 1,0 cm <sup>3</sup> of product, no more	0,0	0,0	0,0	<b>0,0</b>	0,1	0,3	
Pathogenic microorganisms, in particular bacteria of the genus Salmonella, в 25 g of product, no more	0,0	0,0	0,0	<b>0,0</b>	0,1	0,3	
Yeast KUO, no more в 1 g of product, no more	0,0	0,0	0,0	<b>0,0</b>	0,5	1,0	
Mold mushrooms KUO, в 1 g of product, no more	2	20	50	<b>100</b>	200	300	
<b>Macronutrients, g</b>							
Proteins in 100 g of product	New product	9,9	9,3	8,9	<b>8,43</b>	7,5	7,0
	Prototypes	13,8	13,2	12,0	<b>11,8</b>	11,0	10,0
Fats in 100 g of product	New product	2,1	2,5	2,8	<b>3,1</b>	4,1	4,8
	Prototypes	2,3	2,8	3,1	<b>3,6</b>	4,6	5,2
Carbohydrat es in 100 g of product	New product	28,9	28,0	27,5	<b>26,8</b>	9,3	8,5
	Prototypes	26,9	26,1	25,0	<b>24,1</b>	23,0	21,2
<b>Mineral substances, mg</b>							

Table 1.6 (the end)

1		2	3	4	5	6	7
Calcium in 100 g of product	New product	89,8	89,2	88,5	<b>87,9</b>	86,3	85,2
	Prototypes	89,6	88,3	87,4	<b>86,2</b>	84,5	82,1
Potassium in 100 g of product	New product	250,5	248,2	247,5	<b>246,7</b>	244,1	242,1
	Prototypes	274,4	274,2	273,9	<b>272,3</b>	265,0	259,0
Natrium in 100 g of product	New product	127,3	126,4	125,7	<b>124,9</b>	123,0	122,1
	Prototypes	137,2	136,1	135,2	<b>133,3</b>	127,0	122,1
Magnium in 100 g of product	New product	32,1	31,6	30,9	<b>29,84</b>	27,0	25,2
	Prototypes	34,8	34,2	33,5	<b>32,65</b>	30,5	28,9
Phosporus in 100 g of product	New product	160,1	158,4	157,0	<b>154,65</b>	145,1	134,5
	Prototypes	224,3	219,4	215,5	<b>213,1</b>	209,1	202,3
Iron in 100 g of product	New product	1,86	1,67	1,55	<b>1,34</b>	1,10	0,86
	Prototypes	1,3	1,25	1,2	<b>1,05</b>	0,9	0,75
<b>Vitamins, mg</b>							
Vitamin B <sub>1</sub> in 100 g of product	New product	0,09	0,08	0,07	<b>0,062</b>	0,05	0,04
	Prototypes	0,09	0,08	0,06	<b>0,055</b>	0,04	0,03
Vitamin B <sub>2</sub> in 100 g of product	New product	0,13	0,11	0,09	<b>0,067</b>	0,04	0,02
	Prototypes	0,13	0,11	0,09	<b>0,07</b>	0,05	0,02
Vitamin B <sub>3</sub> in 100 g of product	New product	0,9	0,7	0,5	<b>0,3</b>	0,15	0,05
	Prototypes	0,1	0,08	0,06	<b>0,04</b>	0,02	0,01
Vitamin B <sub>6</sub> in 100 g of product	New product	0,63	0,52	0,42	<b>0,33</b>	0,26	0,13
	Prototypes	0,39	0,35	0,29	<b>0,26</b>	0,15	0,13
Vitamin C in 100 g of product	New product	27,6	26,3	25,5	<b>24,4</b>	22,6	17,5
	Prototypes	4,9	4,4	3,9	<b>3,4</b>	2,8	2,5
β-carotene in 100 g of product	New product	1,05	0,9	0,85	<b>0,8</b>	0,6	0,4
	Prototypes	0,9	0,7	0,5	<b>0,3</b>	0,02	0

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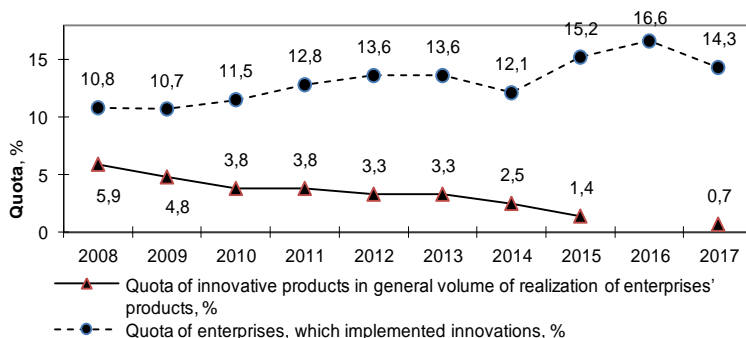
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**THE DUALISM OF THE OBJECTIVES OF INNOVATION MANAGEMENT IN THE CONTEXT OF THE DEVELOPMENT OF COMPETITIVE ADVANTAGES OF THE ENTERPRISE**

World practice of economic activity shows that innovative activity of enterprises is one of the most powerful sources of opposition to competitors and maintenance of high rates of economic development. The activity of industrial enterprises in the creation of product and process innovations gives him the opportunity to act ahead of the curve – to form new consumer needs, to create new market segments that can be quite capacious and provide innovators with significant commercial returns. Due to this, the company will be able to further accumulate resources for its quantitative growth and qualitative development. At the same time, it is important to ensure the proper return on the implementation of innovations – sufficient for business entities (the business owners and its management) to be motivated to give preference to innovative factors, developing a strategy of behavior in the market and forming an appropriate innovative potential for this.

Issues of management of the development of innovative potential of enterprises operating in highly dynamic markets with a significant level of competition are increasingly becoming the subject of scientific research of modern managers – both theorists and practitioners. In particular, in Ukraine, these issues are actively engaged in A. Dzyubina, S. Ilyashenko, N. Krasnokutskaya, L. Loshtchyna, L. Martjusheva, S. Popel, N. Sirotinska, N. Tarnavska, A. Telnov, O. Shilova, Je. Chermoshentseva et al. In the works of these and other researchers the meaning and structure of the innovative potential of the enterprise is defined, formed scientific and practical approaches to evaluation, determined the impact of innovative potential on the development of the enterprise and so on. However, the practice of management of many Ukrainian enterprises shows not enough high return of the implementation of their innovative potential (Figure 1.6, built according to [1], no official data for 2016).



**Figure 1.6 Dynamics of results of innovative activity of industrial enterprises of Ukraine**

It can be assumed that this is due to the mismatch of its structural components to the goals and objectives that the company must solve in the context of a certain period of basic and competitive strategy.

In the context of competitiveness management, it seems legitimate to suggest that the innovative potential of the enterprise should be considered from both strategic and operational-tactical positions. First, it should be sufficient to create and implement innovations that are appropriate to the market context and can be the basis of competitive strategies of the enterprise and its development strategy in the long term perspective. Secondly, it should have such a structure (the ratio of the



importance of individual components) to ensure the maximum possible return on the implementation of the innovations that the company brings to the market. And it corresponds to the purposes and tasks of operational and tactical character. The dual nature of these tasks and the peculiarities of their implementation in the context of global information of human activity require, first of all, dialectical analysis of the essential content of economic categories "innovation" and "potential" and the definition of the relationship between them in different combinations ("innovation potential" and "innovation potential") in the context of the development of competitive advantages of the enterprise.

In the knowledge economy conditions, innovation is the dominant resource for improving the competitiveness of enterprises and their products in the domestic and foreign markets. At the same time, it is important for the business owner to get a significant benefit from this introduction – only then he will want to be an innovator. This feature of innovation, in particular, emphasizes in its definition B. Twiss, which interprets innovation as "a process in which the invention or idea acquires an economic content" [2, p. 30]. Many other scientists also emphasize that innovation should provide the reception of a set of effects (economic, social, scientifically-technical, environmental) and provide profits. And this economic interest in innovation is the driving force of innovative activity, so we believe that it must first be taken into account by studying the epistemology and defining the term "innovation potential".

The word "potential" is interpreted in the dictionary as "the possibility that exists in a latent form and can manifest itself under certain conditions" [3, p. 506]. In the context of the essential-material content of innovation, this potential is realized under the conditions of its necessity by the market (market potential of innovation). And this is possible when the innovation for some time will meet the needs of a certain number of consumers (in one or more market segments) better than analogues offered by competitors.

However, the term "market potential for innovation" is primarily used in relation to product innovation, so it has limited application. Despite the significant variety of types of innovation, and taking into account the feature that unites them—the economic result, we believe it is necessary to assess the impact of innovation on the results of the enterprise activity to use the term "innovation potential", which reflects its ability to make a profit to innovators, which is much higher than expected in case of abandoning the practical implementation of

innovation. And we can confirm that this opportunity will become a real ability only then, when the innovation will provide the enterprise an advantage over competitors (competitive advantage).

Competitive advantages can be formed both in the inner space of the enterprise (for example, in the field of expenses – lower costs compared to competitors due to a better combination of resources and processes), and be the result of more effective behavior of the enterprise in the outer environment – offering consumers products that match their idea of its usefulness. And each of these advantages is the result of the implementation of innovation-process or product, which was once implemented.

Analyzing the possible areas of occurrence of competitive advantages, we advise to emphasize their mutual strengthening. Thus, due to internal advantages, the company can be sensitive to the development of consumer needs in the important segments of the market for the enterprise (commercially attractive and promising, taking into account its production specialization and strategy of technological renewal) and prepare for them faster than competitors. The presence of external advantages makes it possible to produce products that meet the expectations of consumers of different target groups – individualizing the functional and price characteristics of prototypes, thereby attracting new consumers and expanding the boundaries of their market segments. This mutual strengthening of competitive advantages is achieved through a systematic approach to innovation management, their implementation should not violate the ability of the enterprise to maintain a dynamic balance. On the contrary, it is necessary to achieve a balance of innovative changes.

With this approach beside the formation of competitive advantages, the company can improve its economic dynamics, maintain its stability, achieve better economic results. At the same time, it is important to emphasize that to reach this, the most competitive advantages must be sustainable. P. Doyle points to the main feature of the sustainability of competitive advantage is the advantage of trading the company's offer from competitors, making consumers make a choice in its favor [4, p. 111]. This difference is formed due to the uniqueness of the product (and the impossibility of its repetition by competitors) or (or additionally) – its affordability; all this is achieved due to the professionalism of employees and ensures the profitability of the enterprise.

In this interpretation of stability of competitive advantage it is

reasonable to emphasize the uniqueness of production that allows to avoid direct competition. Such an emphasis on the uniqueness of the market propose as the basis of the stability of competitive advantage is also seen in D. Sutton and T. Klein, who emphasize that the real competitive stability occurs only when the enterprise does not copy the competitors, and offers the market something new [5, p. 119]. This new concept changes consumers' understanding of how to meet the corresponding needs, and even – can form new actual needs – which are the key to the commercial success of the new product, improving the economic performance of the enterprise.

Taking into account the fact that the stronger the competitive advantage is, the better economic results can be achieved by the company, offering innovation to the market, we offer to interpret **the potential of innovation** *as its ability to provide the enterprise with competitive advantages in the implementation of business processes aimed at meeting existing and formation of new consumers needs, due to which the enterprise receives entrepreneurial income.* And the more significant (and therefore more stable) the competitive advantage is, the greater will be the potential of innovation – as a result of its commercialization.

And this definition applies not only to product innovations intended for sale in the consumer market, but also to those process innovations that change the production system of the enterprise or its management system and make it possible to reduce the corresponding costs or improve the quality of the processes. For product innovations, it is important that they are positively perceived by the market, and for process innovations – to ensure a high level of product quality, more economical use of resources. In other words, to maintain the sustainability of its competitive advantages, an enterprise must be able to innovate to the maximum extent possible, both in terms of its overall economic performance (entrepreneurial income) and in the context of maintaining consumer commitment, in order to increase its market presence and sustainable growth. This ability is provided by those components of its internal environment, which form the innovative potential.

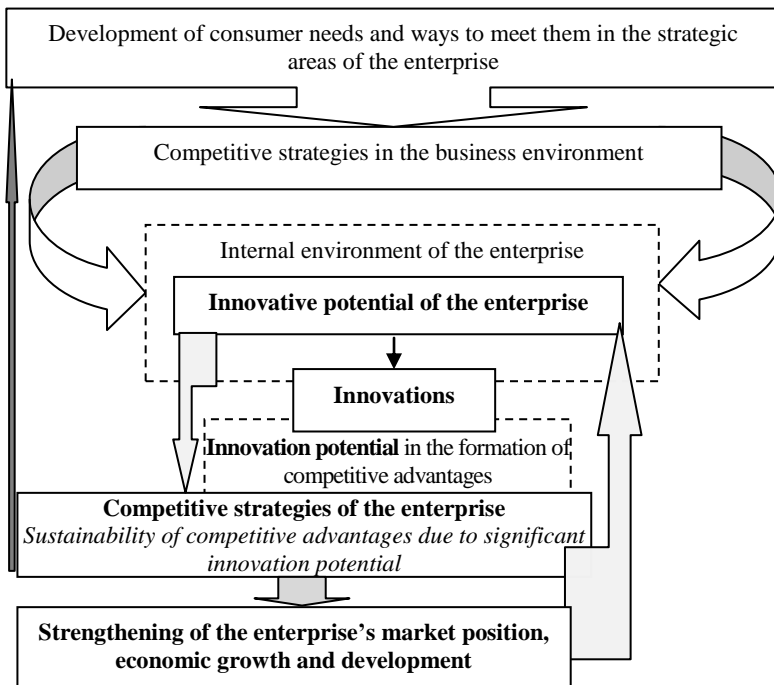
The concept of "innovative potential" of the enterprise in its content is very close to the concept of "potential". However, if the potential of the enterprise in a broad sense can be considered its "ability to a certain activity, reflecting the maximum possible cumulative result of such activity" [6], **the innovative potential of the enterprise should be**

*considered as a set of resources necessary and sufficient for the implementation of effective innovation process in line with the chosen strategy of activity and organizational and economic conditions of cooperation of participants, which form the motivational environmental environment of effective innovative activity.* It is that component of the internal environment of the enterprise providing its development as production and economic system, innovative updating and improvement of processes of creation of consumer values. It is the innovative potential that determines the dynamic capabilities of the enterprise – the ability to create new consumer values and improve the consumer properties of goods, the interest in which is decreasing [7].

Thus, there is a mutual (bilateral) relationship between the potential of innovation and the innovative potential of the enterprise. Innovations, on the one hand, are products of realization of innovative potential of the enterprise, and on the other – tools (means) of influence on ability of the enterprise to provide the development and steady growth at the expense of reception of steady competitive advantages. The last requires the development of innovative potential according to those components that meet the main emphasis of the chosen type of competitive strategy. This corresponds to the concept of dynamic abilities of D. Teece, which defines dynamic capabilities as "the firm's potential in integrating, creating, and reconfiguring of internal and external competencies in order to match changes in the external environment" [8].

Thus, taking into account the fact that the innovative potential is formed for the implementation of innovative tasks that form the basis of the competitive strategy of the enterprise, as well as the fact that competitive strategies are chosen by management for each business context that unfolds in a strategic perspective, opening up new opportunities or creating certain threats to the activities of the firm, we can talk about the interdependence of the processes of formation of innovative potential and its implementation in the form of innovation. Schematically, this relationship is presented in Figure 1.7.

In its turn, the formulation of strategic goals is dictated by the state of the external environment-especially in part of the development of consumer needs and ways to meet them. This choice also depends on what is the innovative potential of the enterprise at the time of decision-making. To do this, it must be evaluated for compliance with the selected strategies. And the objectivity of such an assessment will depend on how structural content fits into the content of the term "innovative potential of the enterprise".



**Figure 1.7 Interrelation of innovative potential and potential of innovations in increase of competitiveness and strengthening of market positions of the enterprise**

*Source: author's formulation*

The presence of such a connection requires a reasonable choice of directions for the development of innovative potential of the enterprise – in accordance with its strategic goals, defined by the basic and competitive strategies. On the one hand, its formation should be in line with the selected competitive strategies, and on the other – competitive strategies are selected taking into account the ability of certain structural components of the innovative potential to create sustainable competitive advantages, which allows the fullest use of the potential of innovation, thus ensuring quantitative growth and further development of the enterprise.

Analysis of existing scientific views on the essence of the term "innovative potential of the enterprise" shows that among them there are two main approaches to its definition – effective and structural. In the

first case, attention is focused on determining the parameters of the efficiency of its use – and here, first of all, the ability of the enterprise to implement innovative projects is highlighted. In the second case, the emphasis is on its elemental composition (or resource capabilities) and the combination of structural components in the process of creating and implementing innovations.

Comparing these two approaches, you can come to the conclusion that they are to some extent complementary. Of course, the first approach is more appropriate for assessing the ability of the enterprise to achieve desired results of innovation. And it does not give an idea of how these results were obtained, does not give the opportunity to build a mechanism for managing the implementation and development of innovative potential. A structural approach specifies exactly what components of innovative potential it is necessary to develop in order for these results to be achieved. Therefore, it can be argued that it is the structural approach that makes it possible to ensure and maintain mutual compliance of the elements of innovative potential, their rational interaction, forming the ability of the enterprise to create and implement innovations.

Based on the analysis of scientific sources on the evaluation of innovative potential and its elemental structuring and critically assessing the scientific approaches of researchers to this structuring, we propose *the structure of innovative potential to be considered as a set of functionally integrated resource components (technical and technological, financial, information, intellectual), which is formed in the context of the basic strategy of the enterprise and, due to the organizational and economic potential of the management system, integrates the efforts of various participants in the innovation process to implement strategic innovation goals and operational and tactical innovation tasks.*

It is obvious that the structural components of the innovation potential can have different significance, based on the strategic goals of the enterprise, as well as the specificity of the product that it brings to the market. They certainly need to change at different stages of the life cycle of the enterprise, and the strategic objectives, and ways to compete for resources and markets at these stages for the enterprise will be different. However, in our opinion, the most important component of the innovative potential is its integration (motivational) component, because it provides the dynamic characteristics of the enterprise.

We consider it appropriate to emphasize that the integration component is formed in the motivational field of organizational

interaction – through the creation of organizational and economic conditions of cooperation. They should be such as to maintain a sufficiently high level of motivation of all participants in the innovation process to create and implement innovations.

Thus, the above gives grounds for the conclusion that the objectives of innovation management in enterprises should be formulated taking into account the interdependence and interrelation of innovation potential and potential of the innovation. And ***the process of innovation management*** is to determine *as systemic action for the justification and implementation of measures aimed at ensuring compliance of the resource-functional characteristics of the innovative potential of an enterprise to the requirements of the successful implementation of the innovation process in the field of the selected competitive strategy and maximizing the potential of the implemented innovation*. Effective management of this process is one of the extremely important tasks of management of industrial enterprises, the implementation of which will allow enterprises to develop and maintain sustainable competitive advantages in the existing strategic areas of management and to form them when entering into new, attractive from the point of view of long-term prospects of economic activity.

Revolutionary changes in information and technologies of the 21st century contributed to the growth of the economic power of transnational corporations. Their dominance extends to an increasing number of market segments and significantly complicates the operation of smaller powerful market players who, due to objective circumstances, are unable to take advantage of the scope of the activity to influence the choice of consumers. This forces them to look for other ways of forming competitive advantages - those that do not lie in the price plane and can be relatively stable in a longer period. And this requires flexible technologies and special engineering and technological competencies that can significantly improve the resource-technological component of production processes, translating into innovations. However, this requires appropriate managerial technologies, which help to build up the intellectual capital of the enterprise and its effective use.

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**KEY ELEMENTS OF  
ECONOMIC  
MANAGEMENT CONCEPTS  
OF COMPANY'S  
COMPETITIVENESS**

In the global and domestic economic environment, the changes the rules that have worked for decades, appear new concepts, advanced techniques and management models, which practical application is promising significant economic benefits, hence the need to improve the theoretical and methodological and scientific developments, dedicated to enterprise management, particularly through the use of modern technologies in the management of various objects.

These promising developments include economic management, which is integrating and coordinating all kinds of functional management (production, organizational, marketing, social, financial, investment, innovation, logistics, etc.) and is the basis of economic activities and improving enterprise's competitiveness.



The support of a competitive enterprise in the desired position, forming and maintaining a long-term competitive advantage directly depends on the ability of the internal structure of the company to respond to changes in the environment, which is justifying the necessity of continuous formation of management actions to improve the company's competitiveness that is being implemented in the system of economic governance now, taking into account its main target characteristics, which were determined such as: the growth of enterprise value for all stakeholder groups and to ensure long-term sustainable operation (viability).

Recognizing the enterprise's competitiveness as the subject of economic management due to the fact that competitiveness is reflecting almost all aspects of the enterprise, describing the potential development, production and financial stability, determining the company place in the market, embodying the scientific, technical, industrial, institutional, managerial, marketing, economic, market and other companies possibilities, which are implemented in the products and services that compete with counterparts in certain markets under the influence of factors that shape the economic production conditions and products marketing of the whole enterprise.

Economic management of the enterprise, in its turn, refers to all activities related to the creation of competitive advantages for the company, products and services at all levels and interacting with them. It covers all major business processes, integrating them into a single economic management complex, will increase efficiency by means of newly created reserves to increase the competitiveness of enterprises in manufacturing, innovation, finance, marketing, organizational and administrative activities, personnel policy and so on. So, studying and establishing the relationship and interdependence between economic governance and competitiveness is the core conceptualization of modern understanding of economic governance and enterprises competitiveness and is the prerequisite for the development of the author's concept.

*Economic management of company's competitiveness* is the process of systematic formation, holding, development and implementation of competitive advantage in a competitive environment using a set of economic methods and tools that can use the company to achieve strategic, tactical and operational goals when achieving the competitiveness that can satisfy the interests of all stakeholders and is resistant to factors of external and internal environment.

In accordance with the basic theory provisions of management

science and competitiveness of economic systems, based on which is concept of economic management of the company competitiveness, its elements are the aim and objectives, object and subject, principles, functions and system provision.

Significant role in solving major problems of economic management company's competitiveness is playing a coordination and subordination of goals of all its functional components that will ensure the company's ability to function effectively in the market, in the short and long-term company's outlined directions. The peculiarity of the target characteristics formation of economic management of company's competitiveness is the need for a comprehensive analysis of a large number of parameters that characterize the competitive advantages of the enterprise to determine the status and interaction of economic resources at all levels (operational, tactical and strategic) that lead to their effective use in present and future times in comparison with competitors.

*The objective of economic management of company's competitiveness is* the systematic development of enterprise's competitive capacity, that provide the ability of the enterprise to form, maintain and realize competitive advantages, covering all major business processes of economic management, taking into account all stakeholders' interests at all levels (operational, tactical and strategic) in the condition of the rational use of economic resources for increasing the competitiveness as purposeful process of change, creating positive conditions for sustainable functioning and development of the enterprise influenced by factors of external and internal environment, improvement of economic performance comparing with competitors and the increase of the company competitive status as a whole.

It should be noted that modern business, being in a changing economic environment, increasing the dynamism of all business processes, accompanying the globalization of the world economy, increasing competition, the continuous increase in the amount of information which is processed in the preparation of management decisions, requires taking into account the interests of stakeholders that form a competitive environment where the enterprise is operating. Under these conditions, the formulation and implementation of the economic management concept of the company's competitiveness, based on the increased flexibility and speed of decision-making aimed at satisfying the interests of all or the main part of the stakeholders, will allow the company to identify the directions and prioritize measures to

improve the efficiency of the company's economic management, in order to be competitive on the market in the long-run as a whole.

In accordance with the stated purpose, the main *tasks* of the economic management of enterprise competitiveness are the formation of a set of economic resources of the enterprise necessary for the creation of stable competitive advantages, the rational use of which will contribute to ensuring the viability of the enterprise; ensuring the ability of the enterprise to balance the existing and attracted economic resources with the external environment through economic mechanisms, which will allow to receive the planned economic results of activity and ensure a high competitive status; ensuring the ability of an enterprise to create, maintain and realize competitive advantages; creation of positive conditions for stable functioning and development of the enterprise in a competitive environment; constant control over the change of all indicators of competitiveness; development and implementation of necessary measures aimed at increasing the competitive status of the enterprise; the establishment of the relationship between management processes and the results of the enterprise economic activity arising from the relations of the enterprise with its stakeholders.

Company's competitiveness as an object of economic management is covering three interconnected planes (components) (Figure 1.8) and is determined by a set of interrelated parameters that allow to form a holistic view of trends in the formation, development and implementation of competitive advantages, identification and enhancement of the company's competitive status, which depends on the state of competitive potential and influences the choice of possible directions and reserves of strengthening the company's competitiveness.

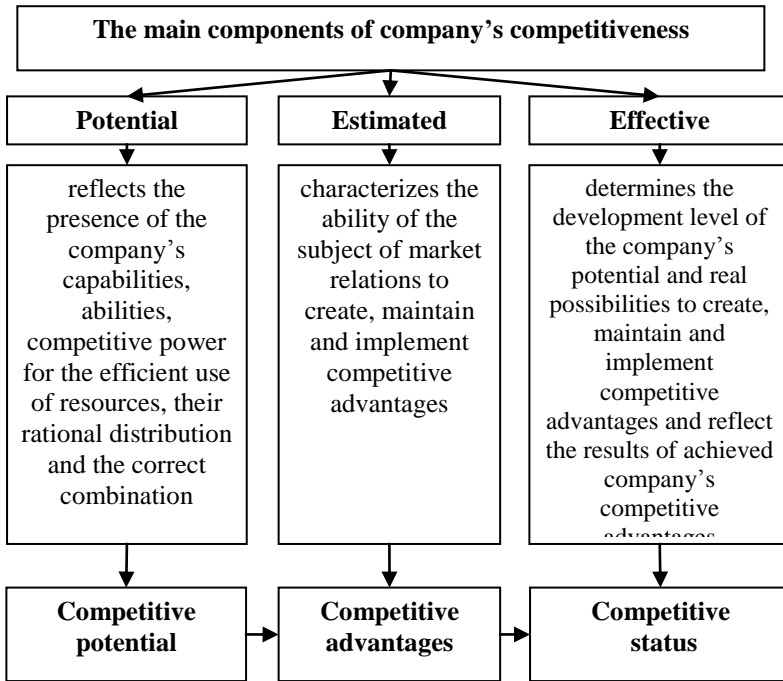
It should be noted that each plane is interdependent and mutually consistent with the other two, which allows one to define such a group as a holistic control object. The competitiveness of the company is reflecting the causal link between the competitive potential, competitive advantages and the competitive status of the enterprise, which, from the standpoint of the system approach, can be considered as independent and interconnected objects of economic management of company's competitiveness.

Thus, *the objects of economic management of company's competitiveness* are:

- competitive potential as a set of economic resources, competences and capabilities that are already being used or can be used in current economic activity and in the long run, and are the basis for

the formation of stable competitive advantages;

- competitive advantages as a source of ensuring high results of economic activity of the enterprise, competitive status, viability and increase of the company value in accordance with the set goals and conditions of the competitive environment;
- competitive status as a complex characteristic of competitive positions of the enterprise in the market in comparison with other enterprises, which is reflecting the development level of potential and real possibilities of the enterprise for the creation, maintenance and realization of competitive advantages.



**Figure 1.8 The main components of the company's competitiveness as an object of economic management**

Based on the above, the objects are closely interrelated, since the formation of a competitive advantage in relation to other market participants directly depends on the state of competitive potential, which testifies the presence of the company's capabilities, , competitive force for the efficient use of economic resources, their rational distribution

and correct combination (taking into account the influence of environmental factors) and creates the preconditions for increasing its competitive status, reflecting the situation on the market in a competitive environment and describes the opportunity and the company's ability to function effectively in the market (in the current period and in the future), ahead of other enterprises' performance (characteristics) that are valuable to consumers and other market agents.

*The subjects of economic management of company's competitiveness* are the circle of people who are involved in the formation of managerial influences, which are implemented in the integrated and coordinated system of company's economic management in part:

- the target orientation of various activities to increase the company's competitiveness;
- formation of the structure of the company's competitive potential;
- development and implementation of managerial decisions for providing the maximum possible level of utilization of the company's competitive potential under certain conditions of competitive environment;
- use of economic methods and models for assessing the company's competitiveness;
- identification of sources and reserves for the formation and strengthening of company's competitive advantages;
- formation and implementation of strategies for increasing company's competitiveness;
- stimulate staff to implement the chosen strategy;
- ensuring the competitive status of the company that can satisfy the company owners and other stakeholders;
- development and implementation of programs to increase the company's competitiveness, etc.

The methodological basis of economic management of company's competitiveness is a set of *basic principles*, the adherence to which directly depends on the process of adoption and implementation of managerial decisions related to the formation and implementation of sustainable competitive advantages of the company.

*The principle of systemicity* involves taking into account all necessary elements interconnections of the system of economic management of company's competitiveness and their interaction, aimed at achieving the goals.

*The principle of integrity* is to ensure integration of all elements of the economic system management into company's competitiveness in a

single management complex aimed at increasing the competitive potential, finding competitive growth reserves that are contained in all functional areas of the enterprise.

*The principle of economic flexibility of company's resource potential* is to provide competitive advantages in the resource plane of economic management, the quality of satisfaction of consumer demand and achieved due to this efficiency of the operation of the enterprise taking into account the influence of competitiveness factors, which determine the formation of new and identifying reserves to maintain the existing competitive advantages of the enterprise by means of adjustment or replacement of inefficient methods of managing enterprises' competitiveness.

*The principle of integrity* involves achieving an appropriate level of enterprise competitiveness, supporting potential opportunities and improving the competitive position of an enterprise by combining its main elements into a coherent system by ensuring the consistency and coherence of managerial impacts to enhance competitiveness with other functional areas in the enterprise economic management system.

*The principle of effectiveness* is based on ensuring the adoption of effective managerial decisions on the formation and implementation of company's competitive advantages, achievement of corresponding competitive status and creation of opportunities for its increase at minimal expenses.

*The principle of coordination and regulation* of all economic processes taking place at the enterprise with the external environment in order to create such competitive advantages, which will ensure stable operation of the enterprise in the long run, high competitive status and increase of value in the market as a whole.

*The principle of consistency* is providing the logical order of the stages of economic management of the company's competitiveness from formation of its goals and objectives for results implementation verification of competitive strategies at the company.

The concept of economic management of company's competitiveness, based on the above-mentioned principles can only be effective if taking into account and ensures the unity of purpose, the coherent interaction of all functional components of the company's economic management with the use of modern technologies and management tools capable of solving scientific-methodological and practical tasks of increasing the company's competitiveness.

Economic management of company's competitiveness is an

integrated and multifaceted concept, the functional orientation of which is to maintain and strengthen the existing ones and to form new competitive advantages of the company in order to ensure the efficiency of tasks solution aimed at increasing the competitiveness of the company in the domestic and international markets.

The main functional load of the economic management of company's competitiveness in terms of management objects is presented in Table 1.7.

Solving all economic tasks within the chosen management concept is possible in the presence of a sufficient number of links between the organizationally allocated divisions of the enterprise:

use of modern means and methods of economic management, information and software for timely receipt and provision of information about a certain cycle of functions implementation of economic competitiveness management (taking into account their interdependence and complementarity in the context of management objects) with the help of computer technologies;

coordinated work of the organizational and managerial apparatus, which establishes the order of interaction of functional and linear units of the enterprise in the process of company's economic activity, which will result in the adoption of organizational, personnel and technical decisions and will allow to focus on the development and order of improvement of economic system management of the company, ensure the proper level of company's competitiveness, and, consequently, its long-term development.

Thus, with the continuous complication of company's external conditions, the implementation of the proposed concept will ensure an adequate level of competitiveness of an enterprise that is able to meet the ever-increasing demands of not only its owners, but also other stakeholders, that will help the most complete development of the potential and real possibilities of the enterprise in a competitive environment.

Successful combination and use of the main provisions of the economic management concept of company's competitiveness will enhance the company's ability to achieve the desired position in the market and the formation of sustainable competitive advantages of a new formation based on strategic development principles, which provide high sensitivity to change and the ability to quickly adapt to new requirements, and will allow to focus on other, not less important aspects of competitiveness, taking into account trends and development prospects in the world economic system.

Table 1.7

**Functional load of economic management of company's competitiveness**

<b>The object of management</b>		
<b>Competitive potential</b>	<b>Competitive advantages</b>	<b>Competitive status</b>
<p>Defines a combination of tools for coordinating purposes between specific types of management and the economic management system for managing company's economic resources. Displays the availability of enterprise features, capabilities, competitive force on the efficient use of resources and their rational distribution and proper combination. It is used to form the basis of sustainable competitive advantage. Contribute to high performance economic activity. Determine the nature of the enterprise and the choice of competitive strategy according to different stages of the life cycle and tasks. It characterizes the potential entity to establish sufficient reserves to increase the competitiveness of the resource management plan. Displays the relationship between management processes and the results of the enterprise's economic activity arising from the resource relations of the enterprise with its stakeholders.</p>	<p>They serve as a source of expanding opportunities for reducing costs, improving product quality, responsiveness to demand, rational use of resources, implementation of innovations, and development of ways out of financial and economic problems. Create the prerequisites for providing the company with a strong market position in the long run. They are formed and kept on the basis of specific capabilities and resources of the enterprise that are not (or difficultly subjected to) imitation by competitors. Serves as the main objective and result of the enterprise economic activity. Reflects the result of more effective competition for managing the processes of formation and development of product properties that are of value to the consumer. Applies to all functional areas of the enterprise, taking into account their interaction and coherence. Displays the conditions of competition in the industry and market requirements, which are conditioned by specific trends in their development, the intensity of competition between actors, the awareness of which changes depends correctness of the chosen strategy.</p>	<p>Characterizes the ability of an enterprise to manage effectively its own and attracted resources and is the result of realization of its competitive advantages from the whole problems spectrum of enterprise economic management. Displays the ability of an enterprise to distribute efficiently and use resources, achieving a more stable and durable market position than competitors. Displays the degree of the company's realization potential to create, build and maintain the company's competitive advantages over a long period of time. It is one of the important elements in planning activities and the development of the company's competitive strategy. It is a complex comparative characteristic of the enterprise with respect to its competitors, which reflects its internal development potential. It serves as a strategic benchmark for increasing the value of an enterprise by forming a set of tasks aimed at improving its position in the market, ensuring stable operation, choosing directions and options for company's development.</p>



## Chapter 2

# ORGANIZATIONAL-ECONOMIC MECHANISMS FORMATION OF COMPETITIVE ADVANTAGES THE ECONOMIC ENTITIES

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## DEVELOPMENT OF FINANCIAL MARKET AS FACTOR OF ECONOMIC SECURITY OF UKRAINE

The financial market is the most important component of the economy of the country, and the economic efficiency of the country depends on the efficiency of its development.

In modern domestic and foreign literature there are a large number of definitions of the concept of "financial market". Blank I. A. believes that the financial market is a market in which various financial instruments and financial services serve as the object of sale [1, p. 128]. Vasilik O. D. provides such a definition of the financial market – a mechanism for

redistribution of financial re-assets between individual subjects of entrepreneurial activity, the state and the population, between the participants in the budget process, some international financial institutions [2, p. 29]. According to V. M. Oparin, "Financial Market" is a collection of exchange-redistributive relations associated with the processes of purchase and sale of financial resources, which are necessary for the implementation of production and financial activities [3, p. 63]. Komarinsky Y., Yaremchik I. [4] characterizes the financial market as a market for loan capital, and they define it as a system of economic relations that provide: the accumulation of free money; conversion of funds into loan capital; redistribution of capital between participants in the reproduction process.

We believe that the financial market is the most important component of the financial system of the state, which can successfully develop and operate only in market conditions. The development of the financial market reflects the flexibility of the financial system of the country and the speed with which it can adapt to changes in the economic and political life of the state, as well as to the various processes that take place outside its borders. The financial market provides the free movement of capital and other financial subjects on a global scale.

In the modern world, the risks associated with the stability of financial markets are among the most important indicators for the economic security of the state. It is clear that the violation of stability under the influence of interfering factors threatens the collapse of the entire financial system as a whole. In this regard, the concept of financial market security from a methodological point of view requires methodological study of the relevant indicators of its sectors.

The financial market arose, as a result, from the emergence of the need for an additional form of mobilization of funds for financial support for the development of the economy of the state. So we can argue that the financial market should reflect the supply and demand of financial resources at the least cost then it will be perfect and promising for the country. [2, p. 60]. The objects of relations in the financial market are: securities, financial services and monetary resources.

The most active institutional players in the financial services market of Ukraine are commercial banks, insurance companies and stock exchanges, since they accumulate the largest share of financial resources and directly influence the development of production in the country, the investment climate and the welfare of the population.

The banking system plays a dominant role in the financial market of Ukraine. The dynamics of the number of Ukrainian banks for 2018 is shown in Table 2.1.

*Table 2.1*

**The number of commercial banks in Ukraine in 2018**

Date	Number of the operating banks	with foreign capital	including 100% foreign capital
1.01.2018	82	38	18
1.02.2018	82	39	18
1.03.2018	82	39	18
1.04.2018	82	39	20
1.05.2018	82	39	20
1.06.2018	82	39	20
1.07.2018	82	40	23
1.08.2018	82	40	23
1.09.2018	81	40	23
1.10.2018	81	41	24
1.11.2018	79	39	22

*Source: <https://index.minfin.com.ua/ua/banks/stat/count/2018>*

Today, the financial system of Ukraine is experiencing one of the most massive crises during the years of independence, which is reflected in the financial markets of the country. The number of banking institutions tends to decrease. Over the past six years, the number of banks has more than doubled, by 53.4%. One of the important reasons for reducing the number of banks is their recognition as insolvent - in addition to the violation of the legislation regulating the prevention and counteraction of the legalization of proceeds from crime, there was insufficient level of their capitalization and the inability of shareholders to provide the appropriate level financial support. The number of banks with foreign capital also declined significantly – by 26.4%.

Thus, an analysis of the current state of the banking sector of the Ukrainian economy provides an opportunity to identify several problems in the banking sector:

- political and financial instability in the country;
- low quality of bank assets;
- decrease of liquidity of banking assets;
- low confidence in the banking system among the population;
- imperfect and unstable legal base in the state;
- high degree of vulnerability of the banking system to the currency

and exchange rate policy in the country, conducted by the NBU.

In order to strengthen the banking institutions' own positions in the financial market, they need at first improve the liquidity indicators that can be done through interaction with other financial intermediaries, in particular, with insurance companies, securities traders, through the use of non-standard schemes of work with others players in the market of banking services and the search for informal approaches in relations with clients, raising standards for the provision of traditional banking services, the development of fundamentally new banking products and services, creating a positive image of the bank, etc.

An equally important segment of the financial services market in Ukraine is the insurance market, the full existence of which is an important condition not only for the welfare of the population, but also for the sustainable economic development of the country. The growth rates of the main indicators characterizing the current state of the development of the insurance services market are primarily due to an increase in the volume of voluntary property insurance amounting to 80-85% of all insurance premiums.

The insurance market is an extremely complex multi-level system, which consists of a number of interconnected and interdependent subsystems such as: insurance products, tariffs, sales organization and demand formation, infrastructure, etc.

Insurance market is a special area of monetary relations, where the object of sale is a specific service - insurance protection, it is formed the supply and demand for it [8].

The insurance market is the second in terms of capitalization among other non-bank financial markets. The total number of insurance companies as at 30.06.2018 amounted to 291, including «life» insurance companies – 31 companies, «non-life» insurance companies - 260 companies (as at 30.06.2017 - 300 companies, including insurance companies "life" – 36 companies, insurance companies "non-life" – 264 companies). The number of insurance companies tends to decrease, as of 30.06.2018 compared to the same date in 2017, the number of companies decreased by 9 insurance companies [8].

The dynamics of the main indicators of the insurance market is shown in Table 2.2.

The number of concluded insurance contracts with individuals on the results of the first half of 2018 has undergone, in particular, the following changes:

Table 2.2

**Basic indicators of the insurance market and its dynamics**

	first half of 2017	first half of 2018	Growth rates first half of 2018/ first half of 2017	
			mln. UAH	%
<b>Number of insurance contracts entered into during the reporting period, thousand units</b>				
Number of contracts, except for contracts on compulsory insurance against accidents in transport, including:				
	35 847,8	38 956,5		8,7
- with insurers - individuals	33 839,9	36 611,5	-	8,2
The number of contracts on compulsory personal insurance against transport accidents	54 147,6	65 498,5		12,8
<b>Insurance activity, mln. UAH</b>				
Gross insurance premiums	21 222,8	23 425,3	2 202,5	10,4
Gross insurance payments	4 783,9	6 070,2	1 286,3	26,9
Gross Payments,%	22,5	25,9	-	-
Net insurance premiums	13 509,5	16 746,8	3 237,3	24,0
Net insurance payments	4 614,9	5 862,9	1 248,0	27,0
Level of net payments,%	34,2	35,0	-	-

*Source:* <https://forinsurer.com/files/file00642.pdf>

- the number of concluded insurance contracts for transport accidents increased by 9 159,7 thousand units (up to 56 834,9 thousand units) compared to the corresponding indicator by the end of the first half of 2017;

- the number of concluded accident insurance contracts increased by 3,255.5 thousand units (up to 19,051.4 thousand units) compared to the corresponding indicator at the end of the first half of 2017;

- the number of concluded financial risk insurance contracts decreased by 1 304,0 thousand units (up to 3 035,6 thousand units) compared to the corresponding indicator at the end of the first half of 2017;

- the number of concluded health insurance contracts in case of illness decreased by 49.5 thousand units (up to 2 902.9 thousand units) compared to the corresponding indicator by the end of the first half of 2017;

- the number of concluded property insurance contracts decreased by

360.5 thousand units (up to 1 207.6 thousand units) compared to the corresponding indicator by the end of the first half of 2017. Thus, today the insurance market of Ukraine is at the development stage and has certain advantages and significant number of shortcomings: the growth rate of the insurance market lags behind the growth rate of the economy, and its share in the GDP of the country is insignificant. But the Ukrainian insurance market has a strong potential for development.

The insurance services market involves the independent activity of its participants, which are in a competitive environment, and build their relations on fluctuations in demand and supply. The insurance services market is an effective means of redistributing funds that were previously accumulated to further invest in the country's economy. An analysis of integration processes in the Ukrainian insurance market suggests insufficient degree of its development and the need for further liberalization, which is intended to promote integration into the world insurance industry. In Ukraine, as in the world insurance market, there is a process of increasing the capitalization of national insurers, merging insurance, banking and industrial capital. The liberalization of trade in insurance services contributed to the exit of Ukrainian insurers into foreign markets, but the presence of national insurance capital on them was insignificant.

Ukraine is lagging behind in the process of bringing regulation of insurance activity in line with world standards. The development of the insurance market as an integral part of the financial market of Ukraine, its further dynamic development, volumes and directions of financing of economic entities will depend on expanding the range of insurance services, increasing their competitiveness, improving the regulatory and legal framework in terms of taxation and increase of requirements to the order of creation of insurance companies, ensuring the optimal structure of the relationship between compulsory and voluntary insurance, involvement of the insurance market before the decision the role of social insurance, further integration of the country into international structures, involvement of the insurance market in solving the most important issues of economic development of the country.

The third strongest segment of the financial services market in Ukraine is the stock market.

In the stock market, there is a relationship of purchase and sale of securities. In turn, securities have a certain value and affirm certain relations between issuers and investors regarding the ownership of securities. In general, the securities market moves capital from the

investor to production.

Banks, joint-stock companies, commodity producers, intermediary offices and owners of free cash cover their interests in the stock market. Usually their interests can coincide, and may also enter into contradictions. The main indicator that influences the development of the securities market is the volume of issuance of securities.

The issuance of securities is considered the main means of combating budget deficits. Authorized bodies of the state may issue securities to repay certain expenditures. At the same time, the state, being the issuer, becomes a subject in the stock market.

At the current stage of development, the Ukrainian securities market has low capitalization and liquidity, insufficient protection of investors' rights and lack of transparency. In the recent years there is a different dynamics of securities issues.

The stock market in one or another country is characterized, first of all, by the volume of exchange trading in securities, the number of securities traded on stock exchanges.

The total volume of issues of securities issued by the National Securities and Stock Market Commission in January 2018 amounted to UAH 3.8 billion, which is an increase of UAH 757 million as compared to the corresponding period of 2017 (UAH 3,02 billion).

The largest volume of trades on financial instruments at trade organizers during the specified period was fixed with government bonds of Ukraine - UAH 20.1 billion (93.6% of the total volume of exchange contracts at trade organizers during January-December of the current year).

In January-2018, the consolidated trading of securities in the two stock exchanges Perspektiva and PFTS was observed at the organizationally-formed market, which was 81.8% of the value of exchange contracts (Table 2.3).

A prerequisite for the development of the securities market is the determination of a strategy for further development that will ensure and balance the budget, stabilize the economy and financial system. In order to improve the efficiency of the participants' work on the securities market, improvement of the information disclosure system for market participants and issuers is a prerequisite. By guaranteeing and insurance of investments you can provide protection for small investors. By introducing measures, it is possible to improve the activities of market participants, which in turn will improve the dynamic development of the securities market in Ukraine.

Table 2.3

**Volume of exchange contracts on trade organizers with distribution  
by type of financial instrument (in the context of organizers of  
trade) during January 2018, mln. UAH**

Trade Organizer	Shares	Bonds of enterprises	Government bonds of Ukraine	Investment Certificates	Derivatives	Total
PFTS	8,00	117,49	6257,24	0,00	0,00	<b>6382,73</b>
Perspektiva	0,00	20,61	11135,69	16,01	20,28	<b>11192,60</b>
UB (Ukrainian exchange)	198,32	569,98	2713,38	0,46	429,19	<b>3911,33</b>
Ukrainian Interbank Currency Exchange	3,02	0,00	0,00	0,00	0,00	<b>3,02</b>
<b>Total</b>	<b>209,34</b>	<b>708,08</b>	<b>20106,31</b>	<b>16,48</b>	<b>449,47</b>	<b>21489,67</b>

Source: <https://www.nssmc.gov.ua/2018/01/19/byuleteny-shtodo-stanu-rinku-tsnnih-paperv-grudeny-2017>

Taking into account foreign experience, it can be argued that, despite the problems of the Ukrainian securities market, it develops and becomes an integral part of Ukraine's market system. Commercial banks play an important role here, because they are actively involved in stock transactions, contributing to the formation and development of the secondary market. But not all Ukrainian banks are ready to change the way of making profits and switch to the stock market.

One of the most important goals of the current stage of development of the country's economy is the implementation of sound and systematic reforms in the financial sector to provide additional sources of financing for economic growth. This, in turn, requires the development and consistent implementation of a long-term comprehensive strategy for the development of the financial sector of Ukraine, taking into account the existing economic realities and strategic priorities of Ukraine in the conditions of globalization of world financial markets.

## CONCLUSIONS

The development of the economy is impossible without a developed, stable, reliable and efficient financial market of our state. The current



processes taking place in the financial market have negative trends and point to the need for the immediate development and implementation of measures to stabilize and improve the financial market. However, it is precisely this period that is most conducive to introducing innovative, and sometimes radical measures to reform the entire financial market. It is clear that financial markets need to introduce radically new financial instruments and management methods.

Thus, in Ukraine, the banking system is dominant among other segments of the financial sector, and any unstable phenomenon in the economy is primarily reflected on it. The instability of the domestic financial system is primarily due to the detachment of financial market participants from stimulating the development of economics, their orientation towards quick earnings, and due to the lack of confidence of the population in financial and credit institutions.

The financial market should become one of the main mechanisms for the mobilization of free resources for economic development and the formation of reliable savings instruments for the population. This can be achieved by stabilizing the foreign exchange market, reducing and maintaining the level of inflation at acceptable levels for the development of the economy, stabilizing the work of the financial sector, restoring public confidence in the institutions of the financial market.

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**THEORETICAL PRINCIPLES OF  
FORMATION AUTOMOBILE  
ENTERPRISES' COMPETITIVE  
ADVANTAGES**

These days, when the competitive struggle between states is more and more unfolding according to the dominance in the global market for the transport services provision, where the competitive advantages ensure speed, security and efficiency, that directly depends on the widespread usage of innovations and high technologies, the research of all competitive environment development is still relevant from the basis of the competition formation as such, the first signs of which have been manifested in the pre-capitalist era.

Returning to the theoretical origins, it should be noted that the scientific principles of competition theory were formed much later, in the middle of the eighteenth century, when in the scientific works of the classical economic theory representatives, competition began to be regarded as one of the main forces which contributes to the market prices establishment at the "natural" level . The works of A. Smith and D. Ricardo were the main ones in the development of these theories; in the future, a significant contribution to the development of the competition theory was made by the fundamental research of such outstanding theorists: K. Marx, F. Engels, A. Marshall, J. Keynes, J. Schumpeter, M. Porter and the others. The "concept of market competition", that was substantiated by them due to the base of competitive advantages, recognizes the market status and strategic area

position of the business entity, therefore, the choice of strategy should be based on the characteristics of the market type and on the available resources as well.

In today's economic theory, the following competition markets are distinguished: the market for pure (perfect) competition, which involves equality of rights and sellers and buyers opportunities; a market for imperfect competition (a market of oligopolistic, monopolistic competition and a pure monopoly). Each of these types of markets has its own peculiarities, so it is important to take into account the type of competition in certain markets and the behavior of competitors during the formation of competitive advantages for all market participants.

In particular, the choice of competitive advantages focuses in the area of low cost formation in the perfect competition market, the value of competitive advantage according to the costs for a certain time may be significant, while they are difficult to hold for a long time. In addition, these achievements in price competition can be leveled through the introduction of new technologies by competitors, which will help to provide even lower costs.

Criticizing in this context the concept of perfect competition, J. Schumpeter, as a recognized author of the effective competition theory, proved in his writings that innovations have more effective grounds for a new type competition than the price competition [1].

On the contrary, a monopolistic competition arises predominantly in the sectoral market where there are many competitors who implement a differentiated product that allows them to exercise some control over the price of the goods (services) until they are copied by competitors.

The distinctive feature of the monopolistic competition, especially in modern conditions, is non-price competition, when the manufacturer is compelled to compete and gain competitive advantages not so much for the price but by the way of improving the consumer characteristics of the products. At the same time, they can not only leave the price at a fixed level, but even increase it somewhat due to their image, or the effective use of advertising in promoting products and conquering markets.

It was about this that M. Porter wrote at one time, who proved that the approach to individualization may have different forms: image, trademark, technology, special services to buyers [2].

An oligopolistic competition is characterized by the activity of several very large enterprises, which compete with each other and control a significant part of production and the realization of sales., D.

Robinson considered the existence of a real oligopoly as the phenomenon that is more widespread than the existence of perfect competition and absolute monopoly [3]. In other words, oligopoly exists, if the number of enterprises in the industry is so small that when forming pricing policies, each of them must take into account the reaction of competitors. The main feature of oligopoly is the limited number of large companies operating in the market (from 2 to 10), accounting for all produced goods or rendered services majority. In the conditions of a pure monopoly the branch consists of one company, that the concepts "industry" and "company" practically coincide. This is due to the fact that the demand function of a pure monopolist is combined with the demand function in the whole industry, since the monopolist represents the entire industry.

All these things point to the need of complying with each subject of a competitive behavior that meets the conditions of the competitive environment.

Concerning the usage of transport vehicles for competitive behavior, it is necessary because national car carriers can do the following things: on the one hand, they compete with the railways and automobile owners of neighboring countries for transit cargo flows, and on the other — they cooperate with them in relation to the usage of loads of those goods whose transportation on the territory of Ukraine is also possible to participate; compete with the carriers of railways and other modes of transport, on the one hand, for the appropriation of the largest incomes, and, on the other hand, because they are interested in creating the conditions under which the volumes of goods production transported by the road transport are increased at the freight-producing industries enterprises; compete with each other, on the one hand — for appropriating the largest incomes, and on the other hand, they are interested in creating favorable innovative and investment conditions, in which the park of own cars increases, and the transport services quality increases.

All this testifies to the need for flexible usage of the corporate and adaptive competitive behavior, the rational combination in the transport of which is objectively necessary to ensure the competitive advantages in the market of freight and passenger transportation, by coordinating with competitors certain actions aimed at achieving a high level of economic and consumer properties transport services.

At the same time, purely adaptive competitive behavior, which is in the operational consideration of the competitors' actions in the

formation of competitive advantages and providing the competitive policy, provides an opportunity for automotive companies to respond flexibly to changes in the competitive environment that are constantly occurring under the influence of the all its entities actions, and on this basis, to ensure the implementation of the competitive advantages more effectively.

However, one can not but take into account that in relation to automobile enterprises, increasingly aggressive competitive behavior of the railways can be used to switch freight traffic for short distances from road transport to rail transport. At the same time, at the macroeconomic level, such actions are perceived as fully justified, since railways spend less on energy per tonne of cargo than the automobile enterprises, and at the present stage of economic development, energy conservation is known to be one of the key conditions for the creation of a competitive national economy. In addition, reducing energy costs will contribute to improving the environmental situation, as 90-95% of pollutant emissions in urban air transport are accounted for today.

The principles of ensuring competitive advantages both at the present stage of economic development and taking into account the following market transformations in a market environment should be substantiated with taking into account the competitive behavior of the automobile carriers in the market of freight and passenger transportation.

The analysis of literary sources concerning the study of the category of "Competitive advantage", that were provided by various domestic and foreign scientists as well, is evidenced by the lack of a unified, unified understanding of it, which nevertheless necessitates the scientific substantiation of this concept, taking into account those features that have already been certified in the scientific literature. In particular, the scientific approaches of leading experts in defining the concept of "competitive advantage" can be grouped according to the following main areas: consumer approach - determines the competitive advantage from the competitiveness standpoint of the product (product or service) [4, 5]; a competitive advantage from the system's standpoint of the enterprise's production activity [6]; competitive advantage from the resource concept standpoint [7]; a competitive advantage from the market concept standpoint [8]; a competitive advantage from the standpoint of the competitive advantage institutional concept [9].

A comparative assessment of the characteristics of competitive advantage content provided by various scholars can reveal the following differences between them: unique goods and services, the product

nomenclature can act as the objects of enterprises' competitive advantages at the consumer level provided with the conditions of the competitive market and consumer requirements conformity; at the market level, the formation of competitive advantages is achieved by implementing an effective industry and market position of an enterprise, which depends on the specifics of its resources and activities; at the level of the enterprise's production system (the sources of competitive advantages are comparative efficiency and intensity of usage of the enterprise's production potential as a whole); at the resource level, the competitive advantage is determined by the productivity of using the company's potential (human, resource, financial, production, innovation and investment, etc.); at the institutional level, the institutional environment created by the state, the advantages in the cooperative relations between the market participants, the enterprise's image of the, the level of employees' competence and compliance with the social responsibility of the business can become the sources of competitive advantages.

At the same time, we consider the scientists' position who believe that according to creating of the competitive advantages cycle should outstrip the cycle of production be important. This means that the predicted competitive advantage is initially projected to the level of production processes and only then manifests itself in the parameters of goods and services [10]. That is the competitive advantage of products can originate at the level of the enterprise's production system due to mobilizing all its resources and managing them efficiently, turning them into the competitive advantages.

The competitive advantages that were created above all on the production and then on the other levels, become a very important basis for the enterprise to ensure its competitiveness.

It is worth noting in regardless to this connection that the shift of emphasis is occurring mainly in the economic literature while determining the essence of the concept of "competitiveness", "competitive advantages" over competitors that is considered somewhat simplified. We consider the justified position of the authors, who note that the competitiveness of the company does not form a distinct preference, but a combination of the competitive advantages, and therefore, taking into account a number of approaches to determining their essence, the problem of the competitiveness's assessing through the competitive advantages is reduced to their identification and expression through an appropriate system of characteristics [11].

An important conclusion from all above mentioned is the understanding that there is a causal difference between the concepts of the competitive advantage and the competitiveness. The competitiveness is a result that captures the availability of the competitive advantages, without the latter to competitiveness is impossible [12].

For a deeper understanding of the concept of "competitive enterprise's advantage", it is very important to establish the principles on which it is based. This is especially true of the concept of sustainable competitive advantage, because it is important for the enterprise not only to find possible sources of competitive advantage forming, but also its maintenance.

The hierarchy of the competitive advantages, based on the possibility of their long-term maintenance, is generally accepted. The advantages of a low rank include, for example, cheap labor, raw materials, materials that can easily be copied by competitors. They also include benefits derived from the scale effect. Such competitive advantages have a low level of sustainability, so companies will not be able to maintain an advantage over the competitors for a long time. In contrast, there are competitive advantages of a high rank, linked, for example, with the patented unique technology, the differentiation based on the unique goods (services), experienced creative management, company reputation, well-known brand, long-term relationships with business partners. Such benefits may be sustained over a significant period of time. At the same time, many of them can be implemented within the framework of a strategic management and require significant investment investments contributions.

It can be noted at the outset that, in spite of the above mentioned range of studies on the evaluation of competitiveness, the theory of evaluating competitive advantages is still not well-developed, since this category is not only complex but also polyhedral.

The reviewed scientific sources indicated the significant differences in the approaches applied by the researchers and made it possible to draw the following conclusions:

— a significant number of scientific approaches are based on the assessment of the competitive advantages of the enterprise and the competitive advantages of the goods (services), which are an important source of its competitiveness as being oriented towards the clients' customer needs. At the same time, the notion of the enterprise competitive advantages is wider compared to the concept of the competitive advantages of products, because it is associated with all the

production and economic activities of the enterprise. The disadvantages of these methods consist in the application of simplified approaches to assessing the competitive advantages of the enterprise, since the indicators of the resource and institutional capacity of the enterprise are not taken into account [13, 14];

— regarding to the use of the assessing the enterprise competitive on the basis of the effective competition theory, the overwhelming majority of approaches are based on the use of financial and economic indicators that take into account only a few determinants of internal competitive advantages, ignoring the significant number of environmental determinants (level of influence of competitive forces, integration with subjects of the market, etc.) [15, 16];

— the assessment of the enterprise's competitive advantages on the basis of a balanced indicators system, the main of which are technical level of production, financial and investment activity, sales activity, innovation activity, production activity of the enterprise [17]. This approach does not adequately reflect the market sources of competitive advantage, since they are based on a single indicator — the ratio between the growth rate of enterprise's sales and the volume of sales in general on the local market. In addition, the institutional factors of the enterprise's competitiveness remain outside the scientists attention (legal framework, corporate social responsibility, corporate culture, integration with market players);

— methodological approaches, based on the resource concept of the formation and evaluation of enterprise's competitive advantages, are widely used [18].

According to the results of the scientific approaches' analysis, we can conclude that the overwhelming majority of the assessing the enterprise's competitive advantages methods takes into account only a part of the sources of the enterprise's competitiveness formation, without integrating them into a complex system and without taking into account, above all, the institutional factors. The analysis of the above mentioned methodological approaches to assessing the enterprise's competitive advantages has shown their versatility and the lack of a unified approach of scientists to solving this problem.

Since not all factors of competitive advantages are quantified, therefore, more attention should be paid to the qualitative factors of the enterprise's competitive advantages, which requires professional expert assessments in the highly turbulent competitive environment conditions. We believe that it is very difficult to propose a unified methodical



approach to the formation of competitive advantages without taking into account the specifics of their activities and the particular factors of market success for the enterprises of various types of economic activity.

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**ASSESSMENT OF  
BUSINESS ENTITIES’  
COMPETITIVENESS**

The current period of market relations in Ukraine is characterized by the development of economic reforms, the emergence of a wide range of business entities that leads to the increased competition, necessitates an increase in qualitative characteristics of products (services), enterprises in service sector. Thus, according to the research company Nielsen, which analyzed the markets of Ukraine at the end of 2017, there are about 11 thousand catering establishments of different formats operating in 6 largest cities of Ukraine (Kiev, Dnipro, Lviv, Kharkiv, Odessa and Zaporizhzhya). The largest share of institutions works in the Restaurant or Cafe format - more than 45% of the total. About 40% of institutions work in the format of fast food, about 15% of institutions are bars, pubs and nightclubs.

Structural transformations in the social and economic life of Ukraine for the benefit of the sphere of services to which the restaurant industry belongs, makes it necessary to scientifically substantiate management of the development of the industry enterprises in a competitive environment. Taking into account that in the market of restaurant

industry there are entities satisfying the needs of different groups of consumers, it can be conditionally divided into a publicly accessible and closed network.

Any restaurant operates in an open system of the environment, which directly or indirectly affects its existence conditions, has ambiguous strength and nature of the influence on the formation of competitive relations in the market of restaurant business. Macroeconomic changes that led to the decline in the standard of living of Ukrainian population have negatively affected economic activity of restaurants in general.

The central concept that expresses the essence of market relations is the notion of competition, which is the most important link in the whole system of market economy. The concept of the enterprise competitiveness, i.e., the ability to more effectively and efficiently meet the needs of the consumer compared to other companies offering such a product or service demonstrates to what extent a particular company can resist the market and succeed in the struggle for primacy.

One of the main directions of the development of hospitality industry staff is the formation of competitive advantages in providing services of higher quality that would satisfy consumers' expectations, compared with competitors. Effectiveness of the formation and implementation of quality services directly relates to the quality of the qualification level of the staff.

In this regard, improvement of the directions for the development and training of personnel is an urgent task that is of real practical importance.

Assessment of the company's competitiveness has always been important because it can determine the current state of the enterprise, the ways and methods of its improvement, based on the capabilities of the organization itself and conditions of the market on which it operates.

Issues of management and evaluation of enterprises' competitiveness were considered in the works of such leading domestic and foreign scientists as Azoyev G.L. [1], R.A. Fathutdinov [2], Vlasova N.O. [3], Pyatnitskaya G.T. [4], Balabanova L.V. [5], Pavlova V.A. [6], Klimentko S.M. [7].

Analysis of the published works and practice of economic activity of domestic enterprises demonstrates the lack of elaboration of fundamentally important issues concerning characteristics of enterprises' competitiveness and formation of a comprehensive system to assess the competitiveness of enterprises in the service sector.

In restaurants, competitiveness of the service reflects its ability to

more fully respond to consumer requests in comparison with similar services provided on the market. The quality of services, consumer properties, and the prices set by service vendors determine competitive advantages of the service. Thus, competitiveness of the service is achieved due to the best appropriateness of its qualitative and cost characteristics to market requirements and consumer estimates.

Competitiveness is a prerequisite for successful operation of restaurant enterprises. This happens due to the aggravation of competition between enterprises in the market segments of services. Therefore, assessment of the competitiveness is a priority task in the restaurant industry.

Numerous factors, including tactical and strategic, influencing competitiveness of the enterprises, determine their ability to operate in modern conditions [4, p.118].

Competitiveness is one of the key categories, because its level determines the success or failure of the enterprise.

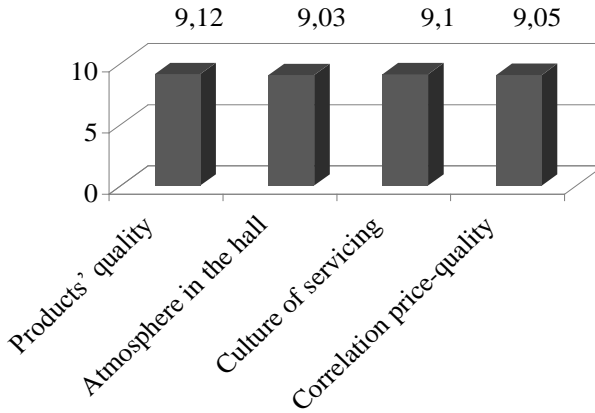
Nowadays, there is a large number of methods for determining and assessing competitive advantages in scientific practice. Nevertheless, the specifics of a particular industry require the development of individual approaches to the definition, prediction of the competitiveness indicator (CI) and development of a competition strategy for the future.

At the first stage, a group of competing companies was selected, on which the methodology for evaluating their competitiveness was worked out. The highest-class restaurant "Old Tower" was selected as the object for the research.

At the second stage, the structure of the competitiveness index of restaurant enterprises (CI) was determined. Its components include quality of products, service culture, price of products (services), image of the restaurant, advertising policy, convenience of the restaurant location, the atmosphere in the restaurant and quality of its material base. Since the advertising policy and convenience of the restaurant location are permanent components, and image of the restaurant is a derivative of all indicators, the research concerning determination of the most important indicator were reduced to the study of product quality indicators (K1), atmosphere in the restaurant (K2), culture of service (K3), and correlation between the price and quality of products (services) (K4) [9]. The results of the study are shown in Figure 2.1.

As we can see, difference between the coefficients is nonsignificant, i.e., for further research, we equate their values:

$$K_1 = K_2 = K_3 = K_4$$



**Figure 2.1 Ranking of indicators in the system of determining the most significant indicator of the competitiveness of the object of research, scores on a 10-point scale**

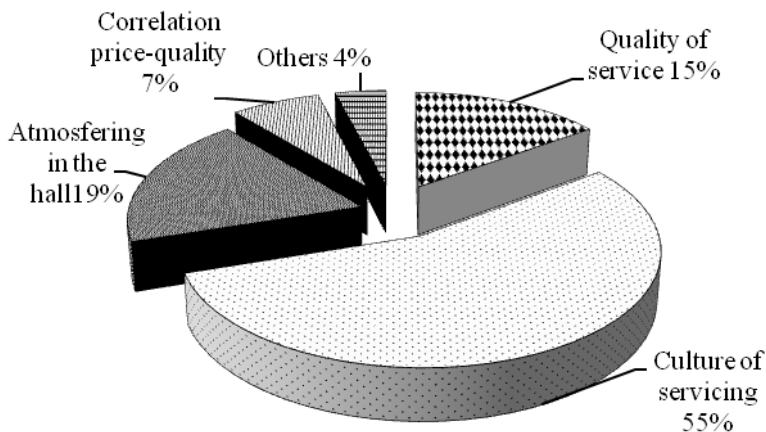
In the course of additional research concerning the study of the most important of the indicators, the drawbacks of restaurant facilities were identified. According to the obtained data (Figure 2.2), 55% of consumers have shown claims to the culture of service.

It means the necessity to increase the level of the staff professionalism, because the company is interested in attracting highly qualified personnel.

For this purpose, marketing of personnel is performed as a prerequisite for the growth of human resources through the search and attraction of the necessary workforce from external sources along with the functions of planning the demands in personnel.

Consequently, the third stage of CI model of the restaurant was the choice of a strategic direction for increasing competitiveness of a restaurant – object of research through the introduction of a training system for relatively new and advanced training of the existing staff of the restaurant.

As you know, effective implementation of competition strategies is impossible without the concept of the development of general managing the enterprise and development of strategy for managing personnel (Table 2.4).



**Figure 2.2 Claims from consumers of a restaurant – object of research**

*Table 2.4*

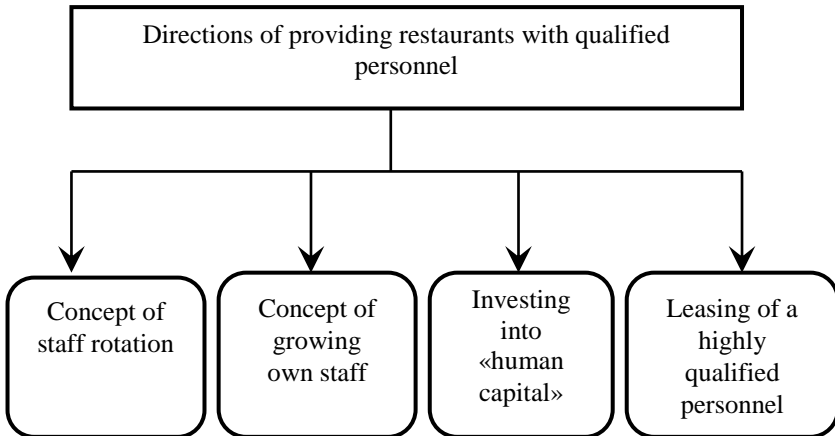
**The directions of the restaurant management strategy**

Directions	Essence of the direction
1	2
Personnel selection and training	<ul style="list-style-type: none"> <li>Selection of staff according to the class of the restaurant</li> <li>Involvement of specialists to the selection and training of personnel</li> <li>Balancing and promoting employees with general and functional strategies</li> <li>Organization of personnel development process</li> <li>Organization of analytical centers for personnel selection and development</li> <li>Application of different models for increasing efficiency of personnel: enrichment of work, staff rotation, narrow specialization,</li> </ul>
Formation of the effective system of labor motivation	<ul style="list-style-type: none"> <li>Balance of rewards and revenues with general and supportive strategies</li> <li>Use of the system of evaluating "work input" in the results</li> <li>Development of an effective system of labor incentives by the principle of "participation in incomes"</li> <li>Implementation of non-material levers of labor motivation, etc.</li> </ul>

Table 2.4 (the end)

1	2
Formation of labor relations	Participation of personnel in management Presence of an internal "corporate" philosophy, culture Adaptation to the system of state regulation of labor relations, etc.
Management system development / curtailment	Development of an effective personnel structure and management system satisfying productive, managerial and commercial needs of the enterprise. Introduction of new specialists in applying diversification and innovation strategies

In general, the problem of selecting and staffing the structure of restaurants can be considered in different ways, depending on the circumstances and capabilities of the enterprise (Figure 2.3).



**Figure 2.3 Directions for providing restaurants with skilled personnel**

Consequently, taking into account data of Figur 2.2 and Figure 2.3, and having evaluated the above results, the strategic direction of raising competitiveness of the object under research was chosen to provide the restaurant – object of research by skilled personnel through the introduction of the concept of growing own staff, leasing of highly qualified personnel from the training center and investing in human capital, i.e. teaching relatively new staff, and advanced training of the existing staff [10].



Let us consider the features of training staff in the restaurant under study. Training and motivation are the part of a set of activities for the creation of service-oriented environment in the restaurant. In this case, learning is a set of activities aimed at improving the knowledge about the restaurant services, rules of work with the client, reminding and maintaining corporate image. Such training was systematic; its main directions included work with the consumer, the company's values.

The key words during the study are "systematic and consistent". In the process of the initial training of employees, the main task is to study the standards of servicing at the enterprise, technology of cooking menu. After recruiting an employee, his work is assessed, and its results are used to identify the need for additional training.

The structure of the motivation system should be simple, clear and transparent. An effective motivation system includes social guarantees, assessment of the work of each employee and the team as a whole, the possibility of professional and personal growth.

The last two components of a plan package regarding the provision of service quality are "supporting" factors for creating a service-oriented environment in the restaurant under study. By means of regular practice of promoting and popularizing the idea of quality service among the staff of the restaurant they are ensured that high quality of service is worthy, honorable and necessary for the institution.

The restaurant under study implemented an integrated approach to learning:

- all new employees pass a purposefully designed orientation program, that is acquaintance with the restaurant and its system of work;
- first, the basics of hospitality, quality assurance of products, basic elements of sanitation and safety are the things with what the applicant for employment in the object of research gets acquainted;
- every employee is trained in the rules of cooking and restaurant service system. An experienced staff member – a staff trainer is attached to the newcomer during training. The study program is planned according to the skills and terms of applicants;
- visual materials are actively used. Part of the training takes place directly at the workplace: production or service areas.

As you know, the service staff can and must "increase the profit" of the institution. In addition, they directly participate in the formation of constant clientage, which affects the "stability of income". Caterers, who are interested and understand this, are ready to train staff. Therefore,

they are ready to invest in it. The main investments of the investigated innovation project are the costs for training staff (Table 2.5) with an ultimate goal to increase competitiveness of the institution.

*Table 2.5*

**Main directions of training personnel, applied at the institution during the research work**

No	Directions of training staff	Features of training	Advantages	Drawbacks
1	2	3	4	5
1	Own training («growing»)	On restaurant's own	Employees "grown up" in the institution's network are perfect for this; Possibility of career growth	To create a training center, you need sufficient material expenses and staff
2	Training	Training "on the ground", in off-work hours. Short-term (maximum 2 days for 2-4 hours) for small groups of listeners. The purpose of the training - to help solve a specific problem, to give practical skills to implement the knowledge gained; Classes are held on the territory of the customer	Maximum activity of the participants, their "involvement" in the educational process, discussions, role games, etc. The ability to "try" the situation on yourself and "experience" it; as a result, the information obtained from dry "paper" knowledge becomes a "living" practical experience	Information that is not used for two weeks after the training is forgotten - it can only be permanently fixed due to real work practice.

Table 2.5 (the end)

1	2	3	4	5
3	Couching	Individual form of training aimed at top managers; " In off-work hours " Classes are held on the territory of the customer	Specialist-coach accompanies the student directly at work and immediately, conducts training on the example of specific working situations	There are few professional coaches
4	Business training	Training to be able to make the right decision quickly; to solve problem situations as quickly as possible; to schedule work time (time management); to manage the staff. Classes are held on the territory of the customer	The restaurant receives tools for "retention" of the staff and its "inspiration" for more effective work, without increasing salaries	A small number of professional trainers; the price for training services
5	Highly-specialized schools: for bartenders, sommelier, barista	Bartender training; Sommelier-schools; Master class.	High level of training	Cost of education

In general, specific trainings were developed for specific questions.

The task of constant keeping a decent level of service in the restaurant is quite complicated, that is why it was broken into two stages:

- introduction of uniform service standards, which each client should be well aware of (avoiding conflicts and minimizing them);

- persuasion of employees to observe the approved corporate rules.

At present, labor market for restaurant services is not ready to satisfy rapidly changing tastes of consumers, due to modest qualifications and professionalism of the workforce in the industry, the demand for which substantially exceeds the supply. The main reasons are both ineffective organization of the personnel management system, which should correspond to modern business concepts, and constantly growing needs of consumers.

Under tough competition with large restaurant networks, independent restaurants have to work a lot to attract customers and improve service quality.

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**REENGINEERING  
OF BUSINESS  
PROCESSES AT  
ENTERPRISES OF  
CONSUMER CO-  
OPERATION****Introduction**

Consumer cooperatives have traditional competitive advantages, namely, the diversification of activities. This circumstance provides cooperative enterprises with economic stability, i.e. Resistance to various kinds of changes occurring in the external and internal environment. In a market economy, consumer cooperatives need to have a competitive strategy for long-term competitiveness. To maintain the efficiency of work of all functional spheres of cooperative companies and to increase the attractiveness of the products for the consumers of the organization allows to follow the marketing concept of a competitive strategy. The basis of it should be a new approach to improving the operation of the enterprise - the implementation of sales reengineering activities, for competent implementation of which it is important to determine the scheme of the method of conducting the transformation.

The choice of control method is dictated by the requirements of the times - each epoch was characterized by its methods - and realized the head of the firm based on his perceptions and beliefs.

Business reengineering, as well as many other methods of

management, came to us from the West. There, in the 80 years there and became widespread method of the revolutionary transformation of the company, a radical restructuring of its business, which was called "reengineering". Him ideologues – M. Hammer and J. Champy Reengineering Essence expressed in the following words: "This is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvement in critical areas of their performance – price, service, quality, pace " [Hammer M., Champy J., 1993]. One of the key concepts that underlie the re-engineering of business processes. It is their improvement is a huge reserve for increasing the efficiency of the enterprise. And for this it is necessary to comprehend the nature of business processes, to understand what value they have for the enterprise, how they should be properly modified. Needless attention to business processes, improve them demanded that the managers of non-standard approach. Gradually re-engineering, which offers the company to break the existing system and build it anew on the basis of a revolutionary change in business processes, become transformed into the control system, "cluttered" technology to stand on the ground of scientific justification. Began to appear relevant software products. The business reengineering of paramount process approach, where the object of control are the processes in the enterprise [Pashutin, 2002].

This article will consider the application of the methodology of business process reengineering, which, in our view, improves the consistency of procedures, methods and instrumentation support for management and its adaptation.

This necessitates the transition from task management to the management processes. In such an organization result of the work will be visible to each participant of the process as a "client" of the study results to determine the original and, therefore, the result is predetermined, based on customer expectations [Hammer, 2000]. From the perspective of the process approach, the organization appears as a set of processes (with a functional approach – a set of functions). And management now becomes the management processes. Each process thus has its purpose, which is a measure of its effectiveness - how best the process leading to its achievement. Purpose of all the processes is purposes of the lower level, which is achieved through the implementation of top-level objectives – the objectives of the organization. Managing processes and continuously improving them, the company achieves high efficiency of its operations [Pashutin, 2002]. Consequently, basic focus is on processes, as they permeate all elements

of management and focus on the Are building the necessary processes and manages them.

Re-engineering of business processes has been widely discussed theoretical papers, textbooks and practical manuals, which nevertheless does not give an answer to the question of how properly implemented reengineering project. And even if the project was designed by consultants, we must remember that, according to various estimates, the percentage of failures of reengineering projects in Western companies is 70%. There are many examples of what has developed projects were not implemented [Zabulonov, 2002.]. The reason for this, from our point of view is the rejection of other approaches to the management of the organization, the formal implementation of the principles of reengineering.

The forerunner of the process approach was the functional approach. Now he is already outdated, and it is a modern alternative to the process approach as a tool of reengineering. But the rejection of the functional approach requires removing the concept of "function" and therefore "functional principle of the creation of organizational structure." Then build up only process structure. It turns out that the distribution of specialists will be on the basis of their belonging to processes. The company, as a rule, is each member of the multifunctional [Storozhuk, 2008]. Therefore, it is the combination of functional and process approach to company management, usually the "golden mean". Functional structure of the company defines "what to do, but the process – "how to do". These are two inseparable sides of management. If a manager, head of the firm will be able to look at the organization from this point of view, reengineering will be to him is really useful and effective tool for managing [Pashutin, 2002].

Business process reengineering – a comprehensive method that allows you to set the company on strategic goals and objectives by optimizing the performance of all divisions of their functions and operations. Therefore, its application to optimize business processes in line with the strategy of the company, to provide transparency for business owners and senior managers, to effectively manage operating activities, to make processes predictable, formalized processes for later automation.

Practical activities to manage and improve business processes by using technology business reengineering, which implements the following possibilities [Pashutin, 2002; Oyhman, 1997; Subanova, 2001; EA Utkin, 1998]:

1. Creation (design) of future business processes
2. Diagnostics business process management
3. Change (adaptation) of business processes
4. Business Process Optimization
5. Documenting business processes

### **1. Creation (design) of future business processes**

For this purpose, a special language for describing business processes. It allows us to describe the current state of business processes, and create models of the future. The model includes a description of all components of the process - the functions, resources, participants, objectives, information, results, events, the direction and sequence of actions - thus reflecting the current reality or representation about it in the future. All the actors perform their responsibilities in accordance with this model. Each staff member clearly knows all their actions through all the processes in which it is involved [Pashutin, 2002]. In describing the business processes, as a rule, are using the method SPA (Structured Process Analysis) [Robson, 1997]. SPA method does not discard the possibility of using the description of the various schemes of algorithms; he replaces them with the leash at the highest level of detail in the development of maps of a complex process that allows processes in detail to a level that is necessary for business process reengineering. [Vinogradova, 2005]. Since the description of a multilevel structure (first describes the process at the macro level, at the enterprise level, and then goes on to describe the lower level with a higher degree of detail), it provides a systematic, structural interconnectedness. Actions of all departments and staff performing their duties in accordance with such a model must be adapted, coordinated and directed into the channel of the overall process to achieve system-wide result [Pashutin, 2002]. Systematic implementation of a business process requires the coordinated efforts of all the subjects of management, which confirms the words of American scholar M. Mesarovich [Mesarovic, 1973.]:

"The system needed to design as an integer, rather than start with the process and then just add the necessary control. One can cite examples in which the design process technology takes into account the presence of control sub-systems, but system-wide approach, without separation, is still not implemented. "

Process management system is as necessary to form a process



structure, that is, arrange them in a particular, interconnected manner. Since each process is designed to produce any result, which is further used to obtain the following results at later stages and higher levels, this structure must provide, ultimately, the overall objectives of the company. It was then that process improvement is the most effective way to achieve [Pashutin, 2002]. In this case, today is unlikely that many understand the urgency and necessity of maintaining the integrity structured around an object, activity. The second point, which prevents the achievement of high performance analytics business process management, is a multipurpose, variegated direction, and the subjects of the head. As a result, it seems the lack of "professional" integrity, both in the understanding of the analyst and the manager [Milner, 1983.].

First of all, this is due to the standards that are used when describing the business process management to link schema of the current operating performance to that of managers, analysts, etc. The organization is described as a combination of structural units and positions, rather than as a single "organism", and based on what the possibility of applying a process approach. A consequence, an incorrect statement of the problem description and the inefficient has used of the models themselves. In the best case, the simulation of the head is limited to a single function with multiple inputs and outputs that do not help in overcoming the difficulties in achieving integrity [Novikov, 2003].

Creation (design) business process involves the following: development of an image of the future organization and development of the business model of the new organization [Chuprov, 2011].

2.1 Develop an image of the organization. Promising way to develop the organization should be performed using a comprehensive approach based on a combination of strategy development process, requirements for the business. The composition of the first stage include specification of the main goals of the organization based on its strategy, customer needs, the overall level of business in the industry and the current state of the organization. The purpose of this stage is to develop a view of the new organization and formulate it in terms of specification of goals of the organization [Chuprov, 2011].

2.2. Develop business models of the new organization. In recent years, is widely used four-stage process of model building the redesigned processes or the development of "new" organization. The four phases are as follows [Chuprov, 2011]:

1. Development of the external model of the future organization.
2. Development of an internal model of the future organization.

3. Create an information system to support future business processes.
4. Testing the redesigned business process on a small scale before implementing it.

Modeling of processes is carried out with the obligatory use of a modeling language. Modeling language must express, as an internal or external process is realized by means of human or technical resources, and from what functions these resources will be taken. It is particularly important to show how the process could be supported information system. [Chuprov, 2011]. Information technology is now in principle perform a powerful "locomotive" of change that sets in motion all the other parts of the organization. Since the change of business environment to the enterprise faces not only new operational issues, but there are new strategic development tasks, which require new information and new quality, which reflects not only the state but also the very structure of the business. In the information systems reflect the latest technical advances and expertise in the subject areas of management. The information system integrates all business units, will automate many functions of collecting and processing information. [Novikov, 2003]. The main condition that must be made with the new information system is the flexibility and ease of modification, to monitor changes in the business [Vinogradova, 2005]. According to [Popov, 1996, Robson, 1997, Subanova. 2000, Filinov. 2001, Hammer, 2000] with the help of information technology can achieve the various categories of changes that can improve not only the temporal characteristics of processes, but also reorganize the sequence of steps in carrying out operations in business processes, control parameters of certain cases. As information systems permit unify and accelerate the diagnosis of business processes.

## **2. Diagnostics business process management**

Process model (existing or projected), due to clarity of description, enables the effective analysis of how best it will lead to the goal. As analyzed factors may act logistics process, its duration and cost (including distribution of them in stages). Others words, which may affect the efficiency of execution. Data analyses enable you to change the process, constantly improving its quality [Pashutin, 2002].

Quantitative indicators of the processes demonstrate the effectiveness of their controls in a certain stage of development of the organization. Resources are managed processes, and they also transform

resources into finished products, which can quantitatively evaluate the effectiveness of management processes. Quantitative indicators of process management include: the complexity of processes; causal relationships between processes, control of processes, resource consumption processes, the degree of controllability of the processes [Chuprov, 2011].

Business process analysis is conducted to develop proposals to address the problem areas in the processes of the organization.

For this is a "snapshot" of technology performance processes - a model of business processes "as is", which allows the customer to obtain a comprehensive picture of what's happening in the company. In the analysis model identifies the current problems of business processes: double subordination, duplication of functions, lack of data communication between processes, inconsistency of processes. According to the analysis proposal put forward direction of change (adaptation) of business processes.

### **3. Change (adaptation) of business processes**

Any changes to the business environment - the emergence of new activity, diversification, changes in the supply chain, technology - all require an immediate transformation of the affected business processes. The existing model is adjusted, the changes are communicated to the performers, and they begin to act in accordance with new conditions. Continuous adaptation of business processes to changing conditions - an effective mechanism for business management [Pashutin, 2002].

Implementation of changes is the most complex and critical phase of reengineering. To minimize the risks associated primarily with resistance to the internal environment carried out a detailed and consistent work with staff, staff at all levels involved in the process of change and are motivated to achieve its results – to optimize the work and flexible organization. For this purpose it is necessary to check staff compliance with the new job responsibilities, to determine the need and quality of qualified personnel; employees adapt to new job requirements and verify the correctness of the implementation of all employees of the new rules work.

The result of this stage is not only the immediate implementation of all changes, but also that employees are trained to the new style of work - a dynamic, results, and, therefore, competitive. The company enters to a new level of organization of work. The main result of the introduction

of changes is that the company laid the mechanism of re-engineering - the continuous change and adaptability to environmental conditions. Organization receives an additional competitive advantage in the marketplace, the ability to optimize business processes in order to develop a new business model.

#### **4. Business Process Optimization**

In order to determine reserves for increasing organizational effectiveness and optimize business processes to monitor and analyze business processes. To eliminate the following factors: the duplication of functions, "bottlenecks, excessive cost and availability of redundant operations, as well as their poor quality of execution, lack of coordination between the participants, etc. Optimization can be of two types - continuous improvement processes (evolutionary distances) and the periodic radical change (Revolutionary Path). The first method is used in the ongoing activity when an enterprise does not need drastic changes. The second way is used when the necessary changes in connection with a major change in the order of activities, such as an integrated automation. In such cases, the task like "start from scratch. " This approach avoids the use of the old processes of new technologies [Pashutin, 2002].

There is a need to fix the existing business processes in order to assess their effectiveness. If you do not today, then the future can be significant costs associated with inefficient staff performance, breach of contractual obligations, the need for restructuring, etc. This entails a considerable financial costs and loss of company image [Samuelsson, 2002] .

To see the bottlenecks in the activities and effectively manage an organization to link the performance of certain processes, works with its target strategic ones. A comparison of strategic goals and objectives of the company have to be with input and output processes. Revealed of the dependence of the company's is performance from the results of process. In accordance with the dependence of selected indicators, this will take management. As a result, the organization at all levels is aimed at achieving results, and company owners and managers with an objective mechanism to assess results of its operations and activities of the organization.

Further, the results of the analysis of business processes into the model as-is being modified to form a process model "as it should be".

During the optimization:

1. Elaborate proposals for the optimization of business processes (functions are redistributed between actors, avoids duplication of functions, bridge the information gaps between the blocks, optimized workflow system between the structural units involved in each process);

2. Together with employees of the customer company developed the scheme of information flows to streamline business processes, list of incoming and outgoing of the structural units of information: the type of outgoing documents, the recipient, responsible for implementing and approving the document officials terms of delivery;

3. Regulation scheme is carried out the movement of documents, development (optimization) of the document management (regulation) on the basic building block of every business process with an indication of participants (including liability), the timing and form of information transmitted within each business process;

4. Makes recommendations for optimizing the organizational structure of the customer company, taking into account the optimized management system (optimized business processes).

The result of optimization is the models of business processes "as it should be" subject to their optimization and service pack (newly designed) internal normative documents (regulations about departments, job descriptions, regulations of execution process).

## **5. Documenting business processes**

All actions and changes in the management of business processes need to reflect documented. Business process models created in the form of declarations is a diagram on paper and electronic media. All this together is a repository of business processes. Any changes required are reflected in the models to the enterprise could always keep the latest version of the complex business processes. Similarly, we can plan for future processes and save them as versions that are analyzed, tested and debugged, and only then become working [Pashutin, 2002]. Planning organizational change includes analytical and forecasting activities, the development of measures and selection of an appropriate strategy. Into account should be taken different levels of intervention in the old structure (individual, group, department, organization as a whole), as well as numerous institutional settings, including the following [Hentse J., Kammel, 1997]:

- the structure and processes (in recent years have increasingly in the

direction of "smoothing" the hierarchy and a strict focus on the process of creating wealth in the "horizontal organization");

- production and information technologies (e.g., the introduction of the minimized production of resources);
- Organizational culture as a model of fundamental values and principles shared by members of the organization (a fundamental change in their is extremely difficult);
- human resources, for example, by selection, staff development, incentive and motivation (with the "transformation" of behavior and attitudes) HR management.

It is crucial to distinguish between partial and radical change. The first is based on the existing systems of values, structures and processes. During the partial transformation is dominated by the practical usefulness of the project, rather than absolute achievement of the ideal (conceptual) state. Radical changes are necessary due to the rapid development of the surrounding market environment after a long phase of stability and long-term neglect of necessary adaptation steps. So "revolutionary" change process to achieve the advantages relative to competitors may be strategically desirable, but met strong resistance from staff [Hentse J., Kammel, 1997].

Consequently, the reengineering to say, as the methods used in specific periods of development organization, when you need to make a qualitative change in organization of a radical way and with a sharp abrupt transition to a new state, missing up to this point of development.

Need to adjust the management system may be due to: 1) feedback, ie the influence of results of the control object (in particular, the discrepancy between normative and actual parameters of the object); 2) the need to revise the objectives, practices and processes implemented by management system; 3) the development of software and technological tools and innovative management techniques [Sukhov, 2002].

## **Conclusion**

The research conducted in terms of this study has made it possible to figure out that reengineering is a very complex and difficult process of fundamental changes in the activity of consumer cooperative enterprises. However, reengineering is an adequate response to external changes in business environment and is aimed at the improvement of business processes related to production, which leads to an increase in

production volumes and thus a company's revenues.

The determination of the nature and essence of the concept of "reengineering" has been an initial research objective.

The analysis has shown that there are many theoretical and practical approaches to the formation of development strategy of organizational processes and organization. These approaches are as follows: intensification (improvement of processes in order to achieve higher efficiency rate); expansion (the use of some of the most powerful processes to enter new markets); growth (development of processes to provide a wider range of services to consumers); conversion (the use of the most effective process to provide services to other economic entities); innovation (the use of the most effective processes to create and deliver new goods and services); diversification (creation of new processes to produce new goods and services).

The analysis has made it possible to conclude that these approaches are used for reengineering and reengineering is one of the process-oriented approaches to management. The most significant difference between reengineering and other management approaches is its focus on creating a relatively stable structure of a given quality, taking into account the possibility of future transformations.

As a conclusion to this article, we can say that the singularity of business process reengineering management is as follows: 1. Reengineering helps to transfer management the organization with the functional principle of the principles of process organization, which are characterized by a process management structure, process teams, focused task-specific business process.

Reengineering approach frees up additional resources (financial, human, technical, etc.) and invested them in the main proceedings. 3. Reengineering approach that focuses on the growth of investment activity and creates the prerequisites for the growth of innovation activity. The orientation of the process determines singularity reengineering: the creation of new technologies, technical means of production and, consequently, spurring innovation, technological progress.

Application re-engineering of business processes will improve the consistency of procedures, techniques and tool support for management, its adaptation to minimize the cost and time. In other words, controlling the process, we will organize an effective interaction both internally and externally - with the outside world. Accordingly, it reduces transaction costs (the costs of poor interaction) – internal (employees and divisions

among themselves) and external (the company with customers, suppliers, investors, etc.) [Pashutin, 2002].

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**ADAPTIVE DEVELOPMENT OF  
COMPETITIVE ADVANTAGES  
OF AN INDUSTRIAL  
ENTERPRISE ON THE BASIS  
OF ANALYSIS AND ENSURING  
THE COMPETITIVENESS OF  
ITS PRODUCTS**

Ukraine’s orientation towards the international market creates conditions for the development of the national economy and a favorable environment for attracting foreign investments into the country. To resolve a wide range of interrelated tasks regarding the development of mechanisms for adapting enterprises of the innovation cluster to the conditions of a changing competitive environment requires the use of a systematic approach.

So, consider the factors that influence it in modern conditions. One of the factors operating in a changing competitive environment is the economic efficiency of the operating activities of the domestic enterprise, which in the market conditions requires the assessment and taking into account the level of competitiveness of products and other factors that operate in a changing competitive environment. In connection with this, it is necessary to determine and take into account the factors of a changing competitive environment, as well as analysis and expansion of the composition of the factor of competitiveness of products of the industrial enterprise that it issues.

At present, domestic enterprises have a wide range of methods for evaluating them, but there is no approach to quantifying the competitiveness of products, taking into account non-price factors along with logistics. In this regard, it is important to consider the manifestation of the competitiveness of economic agents at different levels of government, as well as the impact of competitiveness of products and other factors of the changing competitive environment on the economic efficiency of the enterprise. Adaptive development of domestic industrial enterprises provides for the provision of competitive products.

This determined the relevance of the allocation of this spectrum of problems in an independent direction of scientific research, had a direct impact on the choice of topics, setting goals and objectives.

To date, in the economic literature there is no unambiguous approach to understanding the category of «competitiveness of products». Some authors believe that the competitiveness of a product is a relative integral characteristic that reflects the differences of one product from a competitor's product. Competitiveness – the ability of a product or its manufacturer to win competitions in the market with goods manufactured by other producers, due to more complete compliance with the requirements or cash opportunities of buyers [1, p. 35].

Researcher's majority determine competitiveness as a complex characteristic of the enterprise, based on the analysis of various aspects of their production and economic activity. This allows you to identify the strengths of companies in the competition and find ways to achieve superiority over competitors. Thus, Ivanov Y. B. argues that competitiveness is a relative category, which reflects the difference in the development of the research enterprise from the competitor as the degree of satisfaction of its products of the needs of society, and on the efficiency of production and economic activity [2, p. 27]. It should be noted that under the «object», in this case, it is necessary to keep in

mind both the products and the enterprise.

The concept of «enterprise competitiveness» includes a set of economic characteristics that determine the position of the company in the sector market (national or global). This complex may include the characteristics of products due to the scope of production, as well as factors that shape the overall economic conditions of production and marketing of products of this enterprise.

The ability of an enterprise-manufacturer to compete in a particular product market directly depends on the competitiveness of products, as well as on the totality of economic methods used to make managerial decisions and the degree of risk, which also affect the results of competition. These product features are provided by an enterprise that has manufactured and sold it on the domestic and foreign (international and global) markets.

T. B. Kharchenko proposes to assess the competitiveness of the enterprise through the integrated indicator of competitiveness, which includes profitability of sales, the share of the enterprise market, the quality of products [3, p. 7]. According to the author of this work, the integral index of competitiveness of the company affects not only the indicator of product quality, but also the level of its competitiveness.

L. B. Marotin, Chubukov and Tashbayev [4, p. 96] determine the competitiveness of the company as a component of the logistics service, that is, the ability to offer a product that meets the specific requirements of the consumer in the required quantity, in the right time and on the most favorable terms (price, terms of delivery, organization of maintenance, etc.).

At the same time, the competitiveness of the product as such authors is not considered. V. Yu. Svyatnenko represent «the competitiveness of the enterprise is the ability of the enterprise to produce competitive products, the advantage of the enterprise in comparison with other enterprises of the given industry within the country and abroad». Competitiveness of an enterprise can be assessed only within the framework of a group of enterprises belonging to the same industry or enterprises producing similar goods [5, p. 204]. The enterprise, based on the above definition, will function effectively only in the event of the release of competitive products, which at the same time depends on the market situation.

According to M. Porter's research «the firm's competitiveness can be defined as its comparative advantage with respect to other firms in this industry both inside and outside the country» [6, p. 342]. That is, the

definition of firm's competitiveness is given, but its evaluation is not given. O. Ya. Somova proposes to consider the level of competitiveness of the enterprise as one of the indicators of the economic efficiency of its activities [7, p. 7]. This view is also close to the author's view of this thesis, but in this paper competitiveness will be considered as a factor of economic efficiency, because in order to achieve a certain level of efficiency of an enterprise, it must produce products that can be marketed in the market and obtain some profit from its implementation.

V. Aleschenko interprets competitiveness as a measure of the effectiveness of the subject [8, p. 114]. Some authors identify the concept of competitiveness of the enterprise with its economic efficiency, with this cannot be accepted and it is proposed to consider the indicated indicators in the relationship [9, p. 55].

Unfortunately, Ukraine, with its uncompetitive economy, is not an equal partner for the European community. Large industrial enterprises, formed under the conditions of planned economy, were in a crisis situation in market conditions: the products are in most cases uncompetitive, capacity is not used at an adequate level, and there is no flexibility in reorganizing the structure of production and using the achievements of the NTP. The national economy cannot be competitive in all its branches: industries that increase the efficiency of the economy as a whole are combined with the sectors necessary for the life-support of the state, which, in turn, may be ineffective.

Consequently, there is an instrumental and methodological basis for assessing the effectiveness of the adaptation mechanism for integrating the potential of industrial enterprises in different forms of cluster entities, which in many ways manifests itself as an inadequate development of issues of determining the rational balance of production and financial components of the resource potential of industrial enterprises in the cluster context of their interchangeability. In addition, it is necessary to develop and adapt to the cluster structures the issue of information and analytical support of the organizational and managerial mechanism of the adaptive strategy of the resource potential of the industrial enterprise and the competitiveness of the products.

It is proposed to consider the competitiveness of products as a set of qualitative characteristics of products manufactured in conditions of optimization of resources and requests that meet the needs of consumers, as well as meet the requirements of a specific market (in comparison with similar products presented on the market), as well as price, non-price and logistics factors. In turn, logistic competitiveness of

products is considered as a set of actions to increase the economic efficiency of procurement, transport, warehousing and distribution activities of the enterprise, which occurs by minimizing the costs in these areas.

The competitiveness of the national economy is evidenced by the number of competitive industries, and the competitiveness of the industry is realized only through the production and commercial activities of enterprises that operate in it. Competitiveness of products, in turn, is only a separate part in the complex of the objectives of the enterprise, along with its own capabilities and market activity. The achieved level of competitiveness of the enterprise and its products, together with other factors, ensures an increase in the economic efficiency of the enterprise.

To assess the competitiveness of products, analytical and graphical evaluation methods are used. Analytical methods include: calculation of the integral indicator of competitiveness; differential, complex and mixed method; Competitiveness assessment based on sales; Rosenberg model; Fishbein model; model with an ideal point; an assessment of the competitiveness of the product through the system 1111-5555; method of Grebnova; method of the theory of effective competition; determination of the competitiveness of products using the desirability function and the method of multi criteria optimization, as well as the method of fuzzy sets for determining the competitiveness of products (Table 2.6). Graphic methods for assessing competitiveness include: BCG matrix; Model «Attractiveness of the market – advantages in competition»; construction of strategic group cards; porter matrix; polygons of the competitiveness of goods. Different methods of assessing the competitiveness of products use different groups of factors, mainly found by expert assessments. Using only one method does not give a complete picture of the level of competitiveness of products.

Therefore, when assessing the competitiveness of goods and enterprises, it is necessary to use an integrated method. It should also be noted that in the considered methods of assessing the competitiveness of products, the influence of non-price and logistic factors is not quantified. It should be noted that the latest methods require the availability of primary information and complex calculations, so the traditional method of assessing the competitiveness of products is based on the comparison of the parameters of the analyzed products with the parameters of the comparison base.

Table 2.6

**Key methods and indicators for assessing the competitiveness of products**

Author	Method of evaluation	Indicators of competitiveness of products
1	2	3
Harkavenko S.S. [11, p. 215] Sally V.I. [12, p.43]	Integral	Technical, economic, service and marketing environment. In the technical parameters (designation, reliability, manufacturability, ergonomics, transportability, environmental friendliness and safety), «soft» and «hard» indicators are allocated.
Bobov G. B., Kuzmenko I.V, Mykhailyshina L.V. [13]	Differential	Normative, technical, economic
	Complex	Complex of indicators (group, generalized, integral) or comparison of specific beneficial effects of products: normative, technical, economic
Shevchenko L. S. [14, p.167]	Mixed	Single and integrated (integral) indicators
Svetlov A.G [15]	Parametric method	The beneficial effect of using the product is attributed to the cost of its purchase. Consumer properties of the product, «of which a useful effect» (technical parameters), must be subdivided into rigid and soft ones. Rigid are intended to describe the main functions of the product. Soft parameters are intended to describe the aesthetic properties of products, including design, color, and packaging. Or the beneficial effect of consumption of goods attributed to the price of consumption of goods
Fathutdinov R.A. [16, p.234]	Method of evaluation on the system 1111-5555	Product quality; the price of the goods, the quality of the product service in a particular market; operating costs for the use of the product; quality of processes
Burkinsky B.V. [17, p. 72] 7.	The polygon of commodity competitiveness	Criteria for meeting consumer inquiries regarding any product. Indicators of destination; reliability; environmental friendliness; ergonomics; aesthetics (design); technological capacity; standardization and unification
Harkavenko S.S. [11, p. 221]		Price, reliability, design, image of the product, degree of market novelty, warranty period of operation

Table 2.6 (the end)

1	2	3
Pavlova N.N. [18, p. 82-87]	Marketing method	The ratio of total expenses for the purchase and use of the goods to the beneficial effect that the enterprise has received from this product will be minimal compared to other similar goods.
Obidina Ya. I. [19, p.83-86]	Fuzzy sets method	Qualitative, economic, normative and organizational parameters
Rodionova L. N. [20]	Using the function of desirability	Parameters of objects (products) that are compared normative, technical characteristics, price.

Source: built according to the data [11-20]

Consequently, the methodical recommendations for the quantitative assessment of the indicator of the economic efficiency of an industrial enterprise activity on the basis of adaptive development have been developed. The factors of non-price competitiveness of products are considered with its logistic component (Figure 2.4).

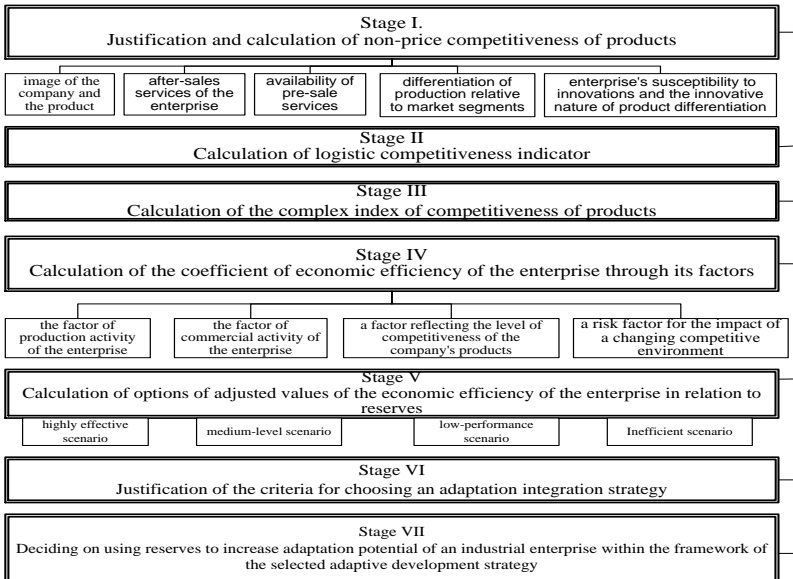


Figure 2.4 Proposed methodological approach for ensuring the adaptation mechanism of an industrial enterprise on the basis of adaptive development



The justification and calculation of the proposed non-price and logistic factors of product competitiveness is considered in [21, p.166].

Summing up the foregoing, we conclude that the use of the non-price and logistic approach as factors in increasing the competitiveness of products imply that decisions taken regarding the purchase transportation and storage of products should also be considered from their influence on the formation of costs and profits of the enterprise.

The proposed approach will provide a more accurate assessment of the level of competitiveness of domestic products by accounting for costs associated with the movement of goods. Work in this direction is promising, especially for products sold on the foreign market. It has been established that for the objective estimation of the level of competitiveness of products it is necessary to take into account its main factors operating in market conditions, but now not all of them are reflected in the existing method of such estimation. The logistic competitiveness of products is defined as a set of actions aimed at increasing the economic efficiency of procurement, transport, and warehousing and distribution activities of the enterprise, aimed at minimizing costs in these areas.

Thus, the assessment of the current level of competitiveness of products without consideration of the indicator of logistic and non-price competitiveness does not provide adaptive development of an industrial enterprise.

Insufficient theoretical study of the issues of adapting the resource potential of an enterprise in the context of imperatives of innovative development reinforces the theoretical and practical significance of conducting a study aimed at studying the processes of the essence of adapting the resource potential of an industrial enterprise within a cluster, developing tools for evaluating and managing this process, allowing to model alternative uses of key components their potential within the cluster.

Successful implementation of this task implies the development of an organizational and managerial mechanism for managing the potential of industrial enterprises - potential cluster members, including the formation of a capitalization strategy for their resource potential, an important unit that is information-analytical tools integrated into the cluster management system as a whole. This determined the relevance of the allocation of this spectrum of problems in an independent direction of scientific research, had a direct impact on the choice of topics, setting goals and objectives.

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**THE ESSENCE, TYPES,  
AND FACTORS OF  
THE FORMATION OF  
COMPETITIVE  
ADVANTAGES OF  
THE ENTERPRISE**

The competitive advantage of the company is the result of more effective than the competitor's process management of the formation and development of the qualitative and quantitative product properties that are important to the buyer.

The processes of the formation and development of competitive advantages of the product are realized by the functional areas of the enterprise's activity: production, financial-investment, marketing, research development, and innovation.

The results of the study and generalization of different approaches of scientists-economists to understanding the essence of competitive advantages of the enterprise are given in Table 2.7.

*Table 2.7*

**Scientists' approaches to determining the competitive advantage of the enterprise**

<b>Characteristics of the concept</b>	<b>Authors</b>
1	2
The exclusive value that a system has and which gives it an advantage over its competitors	R.A. Fatkhutdinov
The assets and areas of activity that are strategically important to the enterprise and allow it to win in competition	S.P. Gavriljuk
The fact that is fixed as a result of the real and obvious benefits of buyers. Concentrated expression of superiority over competitors in the economic, technical and organizational spheres of the enterprise, which can be measured by economic indicators	G.L. Azoyev O.P.Chelenkov
The advantage of an enterprise in some sphere or activity or in the release of goods compared to other competing enterprises	M. Porter

Table 2.7 (the end)

1	2
The global objective of the economic strategy of the enterprise and the national economy. The most productive use of resources, which ensures the achievement of competitive advantages	A.P. Gradov
The advantage, high competence of the enterprise in comparison with its competitors, based on the achieved level of competitive status, sufficiency, and efficiency of the use of competitive potential.	V.G. Shynkarenko
Characteristics, properties of a product or brand that create for a company a certain advantage over their direct competitors	J.J. Lambin
Some exclusive value of the system, which gives it an advantage over its competitors	R.A. Fatkhutdinov
The advantage that provides income exceeding the average industry level and contributes to the achievement of strong positions on the market; the basis of the successful existence and development of the enterprise	V.F.Oberemchuk
The set of measures aimed at improving its own activities, the direct weakening of competitors and the impact on the changing market environment	O. Zozuliov
Identifies the competitive advantages of the organization as an organization's position on the market, which allows it to overcome the forces of competition and attract buyers	N.G. Ageeva
This is the ability of the company to strengthen the competitive position, to adapt the types of activities to the chosen strategy, to choose an effective policy of relations with competitors, to respond quickly to changes in the competitive environment of activity	P.S. Smolenyuk
The strengths of the company that provide superiority over competitors and are important for the target market	L.V. Balabanova
The level of effective use of available company's resources which are divided into external (based on the distinctive qualities of the goods that make up the value for the buyer) and internal (based on the superiority of the company in terms of production costs, which are lower than that of competitors)	I.Z. Dolzhansky, T. O. Zagorna

Thus, today numerous definitions of competitive advantages of the enterprise are used. It should be emphasized that the essence of competitive advantages is revealed through characteristics such as properties of resources owned by the company that provide it superiority over competitors. In general, we can note that the competitive advantages of an enterprise are a combination of the resources available to it (raw materials, spatial, labor, managerial, technological, information, marketing resources, etc.) and the ways of their use, which provide it with more opportunities for production and sales of goods compared to the competition.

A number of authors equate competitive advantage with competitiveness at the individual level. Their position is that the competitive advantage is the property of a product that makes it more attractive to the consumer than a similar product of a competitor.

Research of scientific sources has allowed determining that there is no unanimity in understanding the essence of competitive advantages of the enterprise, so there are different approaches to determining the sources of their formation.

Thus, the company's competitive advantages have the following main characteristics:

✓ Volatility (the competitive advantage is not a constant quality of enterprises. The influence of the factors of competition in the industry creates conditions for its dynamic development, and therefore, "aging" of the existing competitive advantages and the need for their support, in order to achieve competitive advantage, it is necessary to make complex efforts. In some cases, they are not sufficient owing to the influence of external uncontrollable factors. More over, the same factors can both amplify and weaken the competitive advantage);

✓ relativity (the competitive advantage is comparative because it can only be assessed by comparing individual characteristics. Such relativity of the competitive advantage is manifested in its dependence on specific conditions and reasons. The enterprise possessing competitive advantages in one geographic market may not have these advantages on the other, and vice versa);

✓ adherence to specific conditions and reasons (a product that has a price advantage in one geographic market may not have this advantage in the other. On the other hand, a product that is commercially defeated may succeed, for example, due to the exit from the market of them a in competitor, a leap of inflation, a meaningful advertising campaign, etc. It follows that the competitive advantage of any economic object cannot

be of a universal nature. In its analysis it is necessary to take into account the binding factor to the real market conditions).

Dealing with the problem of competitive advantages, domestic and foreign authors consider competitive advantages in terms of the formation of its sources, the definition of their qualitative and quantitative characteristics and proposals mechanism for the formation and maintenance of competitive advantages, forgetting to pay enough attention to their classification.

R. Fatkhutdinov proposed such criteria for the classification of competitive advantages of the enterprise as:

- ✓ the field of benefits (natural and climatic, political, technological, cultural, economic) that concerns the competitive advantages of the country;

- ✓ the essence of the factor of advantage (the quality of goods (services); the price of the goods; the cost of the consumer; the quality of service of the product) that directly belongs to the benefits of the goods;

- ✓ the method or means of obtain ingan advantage (in heritage, training, introduction of innovations, movement) that is conditional.

*Table 2.8*

**Classification of competitive advantages of the enterprise**

<i>Signs of classification</i>	<i>Types of competitive advantages</i>
1	2
System (enterprise) relationship	external; internal
Sphere of manifestation	supply; scientific research and development; production; realization; service and operation
Duration	long-term; mid-term; short-term
Sources of creation and resistance to copying	low level; high level; the highest level
Character of the dynamics	stable; unstable
Price	price; non-price

Table 2.8 (the end)

1	2
Probability of success	probable; obvious (persistent)
Influence on the potential of the enterprise	form a potential; use existing potential
Force and character of influence on the consumer	form consumers; are formed in co-operation with consumers
Origin	created on the basis of stable market situations; created as a response to changes in the surrounding business environment
Level of realization	sectoral; intersectoral; regional; global
Duration of action	strategic advantages; tactical advantages
Concepts of marketing systems	contribute to demand management; help manage requests; help manage needs
Place of formation	in the workplace; in a separate unit; in the organization as a whole
Effect that gets enterprise realizing benefits	scientific and technical effect; economic effect; social effect; ecological effect

The proposed classification covers most of the competitive advantages that can be generated at the enterprise. For the enterprise, the division of the competitive advantages based on the sources of creation and the resistance to copying has a significant practical value. Taking into account this fact, a distinction is made between the following types of competitive advantages:

✓ “low level” advantages, that can be easily achieved or copied from competitors (use of cheap labor; availability of a wide range of raw materials, etc). They are based on the cost or availability of factors of production and do not guarantee a stable market position;

✓ “high level” advantages, that result from a focused business activity, are usually associated with significant costs and are difficult to



copy (modern patented technology; specialized programs for the reproduction of high-skilled labor; high reputation of the company, based on active marketing activities; the presence of an extensive distribution and maintenance network);

✓ “highest-level” advantages, which include the constant modernization of production and activities, accompanied by the exhaustion of a competitor, if he reaches them.

Certainly, when an enterprise management is interested in building and maintaining competitive potential, it should focus on the second and third groups of advantages. The "low level" advantages cannot create a sufficiently reliable and stable basis for the long-term sustainability of stable competitive positions, as the sources of these advantages tend to have an external character, so any significant change in the environment can lead to their disappearance.

The advantages of the second and third groups, which allow not only to increase the competitive potential of the enterprise but also to ensure the long-term preservation of the achieved competitive positions, are considerably more stable. From the point of view of the enterprise, the focus is on the creation and development of these advantages, but the process of their formation, for the most part, requires substantial investments and a sufficiently long period of time.

In addition to the nature of the source of competitive advantage, its stability is also affected by the number of such sources. The more complex and numerous is the set of sources of a certain advantage of the enterprise over competitors, the lower is the probability of copying and longer will be the period of lagging competitors. A decisive role is played by continuous modernization of all areas of the company's activity - from replenishment and improvement of the tools of marketing researches of demand to the level of quality and complexity of after-sales services of clients. That is, in order to preserve competitive advantages, changes, improvements, innovations are needed.

In this regard, the competitive advantages of the enterprise are divided into internal and external (Figure 2.5) depending on their sources of the emergence. This classification justifies the needs of the market such as consumer satisfaction, and corresponds to the goal of creating and operating an enterprise, namely, to make a profit. The external competitive advantage is based on the special properties of the goods, which form the value for the buyer at the expense of cost reduction or an increase of efficiency. The internal advantage, for its part, rests on the predominant cost of production, enterprise management or goods, which

creates value for the manufacturer, which allows achieving a lower cost than that of a competitor.

#### Internal competitive advantages

- management;
- production;
- marketing;
- financial and investment activity;
- technology and innovation development;
- research work

#### External competitive advantages

- price;
- image and reputation;
- quality;
- innovation;
- development of territorial infrastructure;
- charitable support of the population

### **Figure 2.5 Components of competitive advantages of the enterprise**

Preconditions for the formation of competitive advantages are the systematic analysis of determinants of the external and internal environment of the enterprise. The factors of the company's competitive advantages are the material and non-material conditions necessary for the processes of formation and development of competitive advantages in the production process of the enterprise, as well as in the country of its foundation. Depending on the specific values (parameters) of these factors, the enterprise may either have favorable or unfavorable conditions of production to create and maintain a competitive advantage.

The main factors of direct influence on the formation of competitive advantages of the company are the factors of the classical model of competitive environment developed by Professor Porter. The significance and power of the influence of each of the competitive factors (the threat of the emergence of new competitors, the market power of suppliers, the market power of buyers, the threat of the

emergence of substitute products) change from market to market and determine the prices, costs, the amount of investment in production and sales of products, and in the end in profitability of production and economic activity.

Typical is the selection of three aggregate factors that determine the intensity of competition: the distribution of market shares between competitors; the growth rate of market capacity; profitability of the market.

The analysis of the competitive position provides the formation of a more complete and accurate representation of the internal motives of the competitors' behavior. Competitive position is determined on the basis of the evaluation of the competitors' activity and other elements of the environment.

Macroeconomic factors, in other words, factors of indirect influence, do not have a narrow focus on a particular enterprise. In literature sources, the authors singled out the following factors: economic, political, legal, socio-cultural, technological, natural-geographical and international. Quite traditional is the division of the company's competencies into three groups: economic, managerial and psychological.

The group of **economic** competencies includes such, the availability of which allows operating economically efficiently at the appropriate stage in the relevant field:

- technology: use of less capital and labor-intensive processes, procedures that provide better resource productivity, etc;
- research and implementation works: research capacity (financing, personnel, and their intellectual and professional level), conceptual progressiveness and quality of products, possession of patents, etc;
- marketing: the impact on the range of products; advertising effectiveness and merchandising methods; price policy and its success; formation and efficiency of the distribution network, etc;
- after-sales service; the importance of guarantees, the quality, and speed of service, etc.

Another group of general competencies is **managerial**, on the level of which the current and prospective sufficiency of competitive advantages depends. In the context of certain functions, can be distinguished:

- strategic management: the availability and effectiveness of strategic plans, the level of organization and a set of methods of development and implementation of the strategy, the distinction and success of the

previous and operational strategies of the enterprise, etc;

- financial management: structure of funding sources, debt policy, level of debt, level, and trends of profitability, etc;

- personnel management: recruitment policy, selection of talents and gifted individuals, long-term retraining and retraining programs, the efficiency of work motivation systems, etc;

- organizational structures: their flexibility, level of perception, and speed of implementation of progressive changes, etc;

- decision-making processes: administrative cycles and procedures, level of cooperation between subdivisions, etc;

- control processes: the quality of information flow, the reliability, and speed of the response of control systems, etc;

- the system of communications and its efficiency, etc.

With regard to **psychological** competencies, they generally characterize the ability of the company's personnel particularly senior posts, to quickly perceive changes in the rules of conduct in the business environment of their operation, as well as in the macro environment.

Thus, the formation of competitive advantages of the enterprise, based on the main elements of the conception of "value chain", should include solutions to such tasks as optimization of the level of performance of the basic functions, effective inter-functional coordination, and the agreement with the influence of external factors.

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**COMMERCIAL  
AWARENESS –  
SIGNIFICANT  
COMPETITIVE  
ADVANTAGE OF  
ENTERPRISE**

Commercial awareness is, “the knowledge of how businesses make money, what customers want, and what problems there are in a particular area of business” [1].

In other words, commercial awareness is an understanding of what a enterprise needs to do in order to be profitable, successful, and serve its customers well. With it, you do need to understand your own enterprise’s core values, how it makes money and its current business challenges. You also need to know your enterprise’s strengths and weaknesses so you can apply that information to make sensible decisions.

But get it right, and the planning and marketing offers all start coming together and making for a secure and successful enterprise. In an economy where the consumer experience is paramount, service becomes key. This, too, is having interesting side-effects.

In fact, commercial awareness is one of the key attributes cited by many enterprises as being essential to employability, but unfortunately one that many people seem unable to demonstrate. It comes up time and time again in recruitment and interviewing discussions.

So who needs commercial awareness? The short answer is almost everyone. It’s not just those working in sales. With increasing levels of competition in the market, enterprises need to be constantly seeking those who can show it, and demonstrate that they represent good value for money, not just for the company but for the enterprise’s clients too.

What are the benefits of commercial awareness? Commercial awareness focuses on what’s important and improves performance. When you understand the business in which you work, and know how you can help your enterprise compete, you make better decisions, manage risks more effectively, produce better margins, strengthen your reputation and increase the chances of referrals. Also, you’re more capable of meeting your clients’ needs.

No matter what role you work in, production, sales or operations, commercial awareness is essential for you and your enterprise to succeed. Even those not in the direct contact with the customer can benefit from developing understanding and building on it – in fact, commercial awareness is always a major advantage if you want to develop and strengthen your current job.

How to improve commercial awareness? There are a number of things you can do to improve your commercial awareness:

Read the trade press of your and your customer's market segments. In today's Google-search world of available information, everything you need is readily available online. This knowledge will give you a good grounding in the general financial and economic situation in the market and impress upon your clients your commitment to their success.

Brush up on your basic skills, especially your accounting knowledge as commercial awareness often takes the form of being able to read and understand return on investment, profit and loss, balance sheets and other financial information.

Take on concept projects that will help improve your commercial awareness of a client's business. For example, a simple marketing campaign that can be scaled up if found to be successful. Speculative pitches like this will not only increase your understanding of how your client works, but clearly demonstrates that you are willing to put your money where your mouth is.

Apart from these general ways to improve commercial awareness, you need to research any enterprise or organization with which you want to work, and preferably before you have any contact or do any work for them. Apart from the unwanted attention it can bring, the internet is a fantastic tool, and you should be able to research the structure of any enterprise, who is at the top and where people fit into the overall scheme of things, what the company does, who its customers are, what sector it operates in and any specific issues facing that sector or company. Don't just look at the company's website, although that's important. Also research news sites and discussion forums for mentions of any problems, challenges or issues.

We are now entering the world of the big multinational companies (MNCs) that are active around the world, listed on several exchanges and have a globally recognised name or brand. They are exposed not just to the vagaries of the financial markets but to huge changes in the way we live: these are what management consultants call paradigm, seismic or tectonic shifts. The biggest single change is that the speed of

change is itself accelerating: with each passing year the world is a higher-velocity place.

Applying the PEST model you will be aware that technology is possibly the single biggest catalyst in the business world at the moment, prompted by the growth of the personal computer and the internet on the one hand and mobile telephony on the other. What we are seeing is a convergence of platforms covering phones, television, the internet and gaming consoles. This is also prompting a convergence of content (music, film, digital data) and the idea of networked distribution which allows us to access content online on a pay-to-play basis instead of buying CDs, DVDs and applications software on disk. Soon software will be provided over the internet (this is called ‘software as a service’) rather than bought in shops.

Businesses are having to adapt to the additional channel to market which the internet offers. A small number of companies - such as Amazon and Google - are entirely internet-based and were amongst the few survivors of the first dot.com boom in the late 1990s. At first, many conventional businesses feared that the internet would put them out of business. But in fact this hasn’t happened: many traditional businesses have adapted to a brick ‘n’ click environment, combining on the one hand the bricks and mortar of traditional retail outlets with, on the other, internet ordering (a mouse click away).

In finance, enterprises sometimes access institutional investors, bypassing banks when companies’ credit standing is better than that of banks. This is called disintermediation. This bypassing effect is happening in the wider world as a result of the web, allowing blogging and podcasting. Traditional ‘publishers’ ranging from newspapers to radio stations and record companies are being disintermediated. Wikis (web pages that allow anyone to log into them and change them) allow collaboration and sharing of knowledge on a mass level with few attendant costs. Wikipedia, the free online encyclopaedia, is hitting traditional encyclopaedia publishers hard. It’s thought that the last newspaper will cease publication around 2040. Long before then a book like this will be available online, free, and won’t be produced in hard-copy form. People are no longer passive consumers of information: they are active in its creation.

But one lesson of the dot.com bubble is that many things don’t change as quickly or as radically as one might think, or in the most expected way. In fact, some traditional businesses have benefited the most: postal services and vans providing home delivery have benefited

from online shopping. Remember IBM's prediction that the world would be run by a handful of huge mainframe computers – and the reality that we now all have one.

The impact of technology has also been felt by companies in the back office (the back office is the admin part of a business) through business process re-engineering (BPR) where companies have replaced idiosyncratic, and often manual, administration systems with software packages like SAP which enable companies to move to industry-wide standards of administration. This is an example of enterprise resource planning (ERP).

The idea here is that no matter what a business does in terms of its goods or services, its customer base, its markets and geographical location, there are certain basics that it will have in common with all other businesses. All businesses need to have financial controls. All businesses have employees whose payroll and other details need to be maintained. All businesses have basic administrative functions, such as having an inventory of their assets. The idea behind ERP is that you can buy a software suite that will do all of this for you in a way that reflects best practice (often called best-in-class). Why create your own when you can copy the best bits of what everybody else does? Big organisations have been spending a lot of time and money over the last 10 years installing ERP systems and migrating their existing data and processes to them.

Key to ERP are the strategic questions: what are we really in business to do and what are we best at? As a result, two other trends have also taken root over the last decade: outsourcing – getting rid of non-core activities and getting a third party to do them (e.g. getting a third party to run 'your' call centre); and offshoring – getting routine tasks done elsewhere (e.g. word processing sent to India where it can be done overnight at a fraction of the cost).

Outsourcing (or BPO – business process outsourcing as it is also known) is a way of removing cost by transferring the service to a third party which can do it more cheaply because they are doing it for others too. They tend to be more specialist and more innovative in their own core business, so outsourcing deals can become strategic partnerships where the supplier identifies and passes on improvements and economies. Outsourcing enables the buyer to transfer to the supplier systems and functions it would otherwise take too long to change. Outsourcing is also risk sharing: changes in technology are borne by the supplier (though part or all of the cost may be passed on).



In this way the issue of outsourcing becomes an ongoing dynamic question allowing enterprises to manage outsourced services as dynamic portfolios, modifying them as their strategic importance changes and retaining the management capability and a core portfolio in-house. They use outsourcing to manage risk, like a financial option or insurance product.

ICT has had a particular impact on retailers, such as supermarkets. Supermarkets now routinely collect and keep a lot of information about our individual buying patterns (e.g. through loyalty cards). They can develop profiles of particular types of customer and their preferences. They now look at individuals in terms of their lifetime value to the business rather than just in terms of individual transactions. This approach is called customer value management (turning each interaction with a customer into an opportunity to learn more about, and sell more to, that customer). It is informed by trawling through vast amounts of data in databases to detect patterns of behaviour, an activity called data mining.

Data mining is the extraction of implicit, previously unknown and potentially useful information from large sets of data. It is done using mathematical tools called genetic algorithms (sets of statements organised to solve a problem in a given number of steps), neural networks (computer programs modelled on the human brain and trained to recognise patterns in data) and other tests such as rule induction (which identifies the rules inherent in a conclusion in order to reproduce it and provides similar answers elsewhere) which can determine, for example, whether a direct marketing sample is statistically valid.

Data warehousing is where you keep data that can be mined or, to be more technical, it is a 'subject-oriented, integrated, time-variant, non-volatile collection of data in support of management's decisionmaking process' (quoting Bill Inmon, the guru on the subject).

This means the data is organised by subject or entity (e.g. customer) not by application (e.g. sales or stock control), it is held in a consistent form, it is not only current (as on a database) but also historic and time-stamped as such and, once stored, does not change nor is it updated as it would be on a database.

It's no good having your manufacturing working at full capacity if it's simply creating inventory that needs to be stored somewhere and is ageing so may never be sold (all of which represents a cash investment). Estimating how many to make to meet expected demand, taking into account seasonal fluctuations and the transportation time can lead to

massive over- or under-production which in turn can make a business go bust. It's mission-critical stuff.

Supply chain management brings together the processes linking marketing and sales with production, the physical facilities involved (factories, warehouses, truck fleets), the technology that helps to plan, manage and predict demand, and the allocation of roles and responsibilities.

All these things involve trade-offs – between manufacturing flexibility and location, distribution cost and inventory holding. For example, having fewer warehouses may lead to increased transport costs. And this at a time when product lifecycles (remember them?) are shortening so that the speed with which products are invented, manufactured, brought to market and superseded is accelerating.

Technology is having a massive impact on cost-control, itself a perennial theme of business (making more for less). Businesses are having to become more efficient all the time: customers are sensitive to price and the leanest competitors offer the best prices. Companies are forever examining what is core and non-core (which is an issue of strategy). Is it best to be highly specialist (but run the risk that your expertise becomes redundant) or to be diversified (doing a number of things but without being a market leader at any of them)?

Many of these developments are in the retail or B2C (business-to-consumer) market.

But in the wholesale market, also known as B2B (business-to-business), there has been increasing reliance on the core client base – the idea that 20% of your clients produce 80% of your income (this 80/20 rule is known as the Pareto Principle and applies in all sorts of different situations) [2].

One development of this is an emphasis on client relationship management (CRM) where businesses try to get close to their biggest corporate customers, forging close contacts at different organisational levels, understanding their clients' strategies and where power lies – which provides opportunities for young professionals like you to develop key relationships with people your age in client organisations.

Corporate governance (and corporate social responsibility). Public companies are required to make their management more transparent through adherence to voluntary corporate governance codes which set out how they should be run and the use of non-executive directors and chairmen to check up on what the directors are doing and how much they are being paid ('nonexecutive' simply means you don't have a day-

to-day role in running the business, which is why non-executive appointments tend to be part-time – but often well rewarded, a controversy in its own right) [3]. These issues matter to the institutional investors that hold their shares.

Some argue that a company's role is not simply to make profit for its shareholders. It has duties to all its stakeholders and these include employees, customers, pensioners (past employees) and – in the case of big businesses with extensive operations that affect the local community – those who live nearby. Environmental concerns, in particular, have been a driver in the development of the idea that companies need to be good corporate citizens too. This is called corporate social responsibility or CSR.

What all of these changing and challenging factors mean is that business must 'innovate or die', as Christopher Freeman warned companies 20 years ago in *The Economics of Industrial Innovation*. It's what keeps CEOs awake at night. It's the golden goose of business [4].

Management writers draw a distinction between new product development (NPD) and innovation management (IM). NPD focuses on the process required to produce a single new product (NP). IM is concerned with creating and managing the organisational environment which turns one-off NPs into a sustainable stream or pipeline.

Innovation covers both new products and new ways of making existing products. At the birth of any industrial sector there is radical product innovation, followed by radical innovation in production processes, followed by widespread incremental innovation. So in a mature market innovation is around finding new ways of delivering the same product service but more efficiently. For this reason, it matters little whether or not an idea is objectively new as measured by the lapse of time since its first use or discovery; if the idea seems new and different to the consumer, it is an innovation.

Management writers have identified the different sources of NPD. There is the 'technology push' model where scientists make unexpected discoveries which are then manufactured and marketed (as in the pharmaceuticals industry) and the 'individualistic school', which holds that innovations are the result of unique individual talents and such innovators are born (with an important role played by serendipity or unexpected discovery, as happened with the Post-it which was a by-product of the search by 3M for strong, not weak, glue).

The 'market pull' model suggests that innovation is stimulated by the marketing function which initiates new ideas from close interaction with

customers. The ‘social deterministic school’ argues that innovations are the result of a combination of external social factors and influences, such as demographic changes, economic influences and cultural changes and that when conditions are right, innovations will occur.

As you can guess, innovation is intimately connected to an enterprise’s knowledge and skills. There is a ‘coupling model’ which holds that innovation is the result of the simultaneous coupling of knowledge within manufacturing, R&D and marketing. The ‘interactive model’ suggests that innovation results from the interaction of the marketplace, the science base and the enterprise’s capabilities.

Innovation, then, is a combination of theoretical conception, technical invention and commercial exploitation; the result of which is successful implementation within the enterprise.

Small and medium-sized enterprises (SMEs) are no strangers to innovation. In fact pharmaceutical companies are increasingly outsourcing their research and development into new drugs to external SMEs.

This chapter has looked at macro-economic factors affecting business and, in particular, big business. But if the businesses you advise are small, don’t think for a minute that these issues aren’t relevant. In fact, in my experience – and as a management consultant I have advised just as many SMEs as I have large businesses – SMEs make better and more interesting clients, for two reasons.

First, the people in SMEs tend to own them and so they are completely immersed in the running of their businesses and are attuned to strategic ways of thinking and sensitive to their external environments. There is a sense of urgency about them and, as people, they tend to be quick-witted and don’t have airs and graces. They get to the point and want you to do the same. This means they can be demanding clients and keep you on your toes, but that’s what makes serving them so satisfying. They expect you to grasp what these sorts of issue mean for them.

Second, they are able to make and implement decisions quickly. Their businesses don’t have much by way of hierarchy.

Management tends to be concentrated in a small number of senior people. They don’t have to build consensus or get buy-in (though the best always do). And once they’ve decided on a course of action they get on with it and expect everyone else to do so too.

So don’t think for a moment that smaller corporates aren’t just as interested in what these big issues mean for them too. Their markets

may be more local, but, if anything, they feel change more quickly and if they don't adapt and respond they are likely to go out of business even more quickly than their bigger brethren.

You need to do two things, regardless of how big or small your clients are. First, you need to keep abreast of changes in the business world. This chapter hasn't been a comprehensive survey of big issues. It's just meant to get you thinking and provide you with some of the basic business vocabulary. What I suggest you do is scan the pages of *The Economist* magazine (it's a weekly that comes out on Fridays), especially the business and finance sections towards the back. And cast your eye from time to time down the contents list of the *Harvard Business Review* just to get a feel for what's hot.

Commercial awareness is not just a highly valued skill in the current market, it's one of the most important aspects that can set us apart from our competitors. More so than products, machines or even offers. With the printed graphics industry facing increased levels of competition from other media, and the tight budgetary controls of clients and prospects, we need to create a differential that is both beneficial to our clients, and advantageous for us. Commercial awareness achieves this and is a fundamental issue for any savvy organization to integrate into their approach to the market.

That said, commercial awareness is also a relatively straightforward skill to develop with application and thought, especially if you have some experience in managing some aspect of a business.

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## Chapter 3

# ENSURING COMPETITIVENESS OF RESOURCE POTENTIAL THE ECONOMIC ENTITIES

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## COMPETITIVE ADVANTAGES OF THE VISUAL INFORMATION SYSTEM OF TRANSPORT CENTERS

**Introduction.** The basis of modern design of visual information systems is design thinking. This involves the integrated integration of theoretical and practical knowledge, as well as design ideas into a coherent project.

With the expansion of volumes of machine production, there is a renovation of the subject-space environment of transport centers (Tavares A.S. et al, 2015; Mfenjou M.L. et al, 2018; Lois D. et al, 2018; Fedoseev A.A. et al, 2017; Pensa S. et al, 2014; von Richthofen A. et al, 2018; Masala E., et al, 2016; Zhang J. et al, 2011; Yam R.C.M. et al, 2001) [1-9]. This leads to a dissonance between the need to identify the progressive use of

visual information systems (Pensa S. et al, 2014; asala E., Pensa S.,2016; Chua, A. et al, 2014) [5, 7, 10] and their functional and aesthetic imperfections.

Today, the main problem of competitive products is the practical use of the scientific component of the design. This applies to the design of industrial systems (Tavares A.S. et al, 2015; Mfenjou M.L. et al, 2018; Lois D. et al, 2018; Fedoseev A.A. et al, 2017; Pensa S. et al, 2014; von Richthofen A. et al, 2018; Masala E., et al, 2016; Zhang J. et al, 2011; Yam R.C.M. et al, 2001) [1-9], the system of «man-machine», the system-wide activity, the design of systems that control human activities in certain situations.

The model of perception of the system of visual information (Pensa S. et al, 2014; Masala E., Pensa S., 2016; Chua, A. et al, 2014) [5, 7, 10] is flexible and multifaceted. The competitive advantages of this system are a variety of techniques and tools that model the structure of the combination of individual aspects of the provision and perception of information (Chemakina O.V., Lysiuk I.A., 2014) [11].

**Analysis of recent research and publications.** Different interpretations of principles, methods and means of compositional formation of an interior, as well as methods of its analysis, are given in the scientific literature. Cardinal rethinking of value orientations in the field of communications (Tavares A.S. et al, 2015; Mfenjou M.L. et al, 2018; Lois D. et al, 2018; Fedoseev A.A. et al, 2017; Pensa S. et al, 2014; von Richthofen A. et al, 2018; Masala E., et al, 2016; Zhang J. et al, 2011; Yam R.C.M. et al, 2001; Chua, A. et al, 2014; Chemakina O.V., Lysiuk I.A., 2014; Chemakina O.V., Vasylychenko O., 2014) [1-12] causes the rapid development of visual information systems in various spheres of life (Pensa S. et al, 2014; Masala E., Pensa S., 2016; Chua, A. et al, 2014) [5, 7, 10].

A fundamentally new design ergonomic approach is formed. Technocratic thinking is replaced by a communication outlook based on modern information technologies (Pozdniakov S. et al, 2018) [13, 14]. The normative documents specify the need to establish a relationship of communication design and modern technology. Therefore, the associative assimilation of various forms of sign information should be part of the professional activity of the designer.

Visual information systems require a detailed, multilevel, and multifaceted description of their context (Pensa S. et al, 2014; Chua A. et al, 2014) [5, 10], clarifying the spatial and temporal boundaries of a particular communication situation. In doing so, social, cultural and psychological conditions, visual tools and technologies for the delivery of visual images

should be used. This is due to the historically unprecedented density of visual communications, with the volume of visual graphics that human culture did not yet know.

Therefore, it is necessary to look for new forms of expressiveness of visual information systems, which organically apply new design approaches (Chua A. et al, 2014) [10]. We need to move on to new methods of systematic design of high-quality science-intensive competitive products based on advanced efficient technologies (Chemakina O.V., Kuzmin A.O., 2018; Chemakina O.V., Minyailo I.V., 2014; Kuzmin O. et al, 2018; Levytska S. et al, 2018) [15-18]. The latest advances in scientific and design studies should be applied (Chemakina O.V., Kuzmin A.O., 2018) [15].

The purpose of the work is to formulate the principles of simulation of visual information systems and to identify the means, methods and methods of their adaptation to the conditions of transport centers.

**Results and discussions.** In the process of simulation of visual navigation systems in transport centers, the following parameters are taken into account: functional convenience; compliance with ergonomic, anthropometric, technical and technological requirements; efficiency of application of the newest visual technologies and materials; the ability to operate stably and efficiently; stylistic variety of forms of elements and components of the system; original design from the launch of the first models to the production of the product for the current production.

Evolution in production becomes a condition for constant technical development, followed by an incentive for new designer quest. By mastering these areas of simulation of visual information systems, it is necessary to take into account the human factor at the initial stages of design, the development of models of human activity in the environment of transport centers, the functional and planning organization of external and internal spaces, the visual organization of the subject-spatial environment.

To identify the structure, boundaries, spatial composition in the simulation of visual information systems in transport centers, a methodology for complex analysis is proposed that combines the known general scientific methods of analysis:

- structural-functional – graphoanalytical investigation of the functional and planning structure of the transport center with the allocation of parts of the functional processes of service of goods and passengers, studying the nature and intensity of passenger and freight flows, their actual and potential power, type of flow passage, type of prevailing flows;

- visual analysis of the spatial structure of the transport center with the definition of the visual framework of the perception of functional processes,



functional saturation of passenger flows, the location of transport and pedestrian streams, administrative, business, cultural functions, places of execution of certain actions, etc.;

- sociological – sociological study of the spaces of the transport center as a zone of social activity, which makes it possible to evaluate the composition of users of visual information systems in a qualitative way, to compile ratings of socio-demographic characteristics of visitors, to identify the dependence of the visit of the transport center on external socio-economic factors, to identify a list of functional benefits of system users, ratings of the intensity of the use of systems;

- composition analysis includes research of the spatial structure of the transport center in order to study the potential capabilities of the dominance and expressiveness of visual information systems in three-dimensional space, from the point of view of motion, approaches from the main directions of movement, identification of landmarks, perceptions of silhouettes and large delineations of system elements, textures and texture of surfaces, small elements;

- the analysis of economic efficiency contains the results of the above analysis methods in accordance with the characteristics of their economic efficiency – the effectiveness of the use of visual information systems of external and internal spaces of transport centers (territories, areas of premises, building volumes, etc.), the degree of investment attractiveness (state, private or mixed) systems in the presence of their universality, functional and informative saturation, availability of reserve resources.

According to the design methodology, the information center of the transport center should correspond to the physiological and mental capabilities of the person, to ensure its most efficient operation, not to create threats, to allow them to stay and act in space with minimum expenses of biological resources, to provide an opportunity for their renewal and development. The measure of the effectiveness of simulation of visual information systems in transport centers becomes a measure of compliance with the psychophysiological capabilities and needs of the user.

At the initial stages of modeling, functional-typological peculiarities of the transport center should be investigated, the principles of organization of human interaction with its subject-space environment should be determined, the nature and specificity of the actions of external and internal factors should be revealed. In the course of these studies, the idea of the system of visual information is clarified, the synthesis of its forming components is carried out, which organically combines the spatial structure of the transport center, connected with the environment and its subject-spatial environment.

The evaluation of the quality of the visual information system as an object of design modeling allows us to draw conclusions about the quality of the design solution and must contain a relevant criterion.

One of the characteristic features of the formation of visual information systems is their rather rapid moral aging. They are constantly in need of expansion, development, modernization and improvement. It is now time-consuming to create a more maneuverable visual navigation system for transport centers, which will be viable for any change in social requests. The decision of this side of the problem of the creation and development of visual information systems may be the application of flexible volumetric spatial modular structures that can be adapted in time, as well as the development of techniques and tools that enable the transformation and modification of elements of the system in a phased manner in accordance with the change of functional- scheduling organization of the transport center. Such an approach to the formation of a visual information system is not only economically feasible, but also aimed at a person.

To achieve this result you need: to define the special requirements and conditions of adaptability of the system of visual information; to identify the means, methods and methods of their adaptation that meet these requirements; formulate the principles of modeling visual information systems.

The key concept of «modeling» within modern design theory and practice has several meanings: as a synonym for mockup, meaning full-scale simulation or creation of a 3D spatial object model; how to build a model by means of computer simulation; as one of the initial stages of the design process, in which the graphical and schematic form is determined by the functional and figurative content of the design object.

The invariant model becomes the bearer of conceptual characteristics of different versions of the project implementation, depending on specific economic and social situations. For designing visual information systems that can be adapted to certain changes, the simulation stage is most urgent and relevant, since it provides for verification and prediction of qualitative and quantitative indicators for each individual project design option.

An adaptive system of visual information is formed, taking into account the analysis of the factors influencing its users and aims at achieving maximum compliance with the requirements of operation and perception.

Requirements for simulation of visual information systems with the possibility of their adaptation when changing conditions and possibilities of use are as follows:

- functional diversification – the ability to use system elements for a

variety of functional processes occurring in transport centers and whose change can be foreseen;

- taking into account changing conditions of exploitation (external – natural, urban and environmental characteristics of the system, internal – design and technological characteristics). This involves monitoring data on the factors affecting the existence of the visual information system;

- continuity of formation – the possibility of optimizing the system during its operation.

The analysis of existing visual information systems in the transport centers of Kyiv (airports, bus terminals, railway stations, metro) showed that the implementation of the above requirements can be realized on the basis of the following means of adaptation of system objects: variability, resource redundancy, space transformation, typification and unification of system elements.

Variance as the quality of a system or structure of visual information provides the development of various versions based on a single invariant solution embedded in the model. Achievement of variability involves the following techniques:

- consideration at the stage of simulation of as many possible scenarios of the functional and planning organization of the environment and variants of the three-dimensional solution of the visual information system based on the functional diversification of the external and internal spaces of the transport center;

- correction and modernization of the system throughout the life of the operation, depending on the new conditions.

Resource allocation technology involves the following techniques:

- reservation of appropriate spaces for the alleged redeployment or mobility of system elements;

- expansion of the system using the provided external spaces with the expansion of the relevant infrastructure;

- reservation of internal resources of territories and spaces to increase the potential capacity of the system;

- maintenance of the strength of structures, life support systems (heating, water supply, electricity supply, etc.).

The transformation of spaces involves the following tricks and possibilities:

- changes in the functional and planning organization of the transport center, associated with its urban or spatial transformation (capacity change, capacity increase, optimization of technological processes);

- transformation of internal elements of transport centers or

transformation of their internal spaces;

- reduction of internal planning elements, transformation of design schemes of transport centers.

Typization and unification of elements of visual information systems is provided by opportunities and techniques of a design approach to modeling.

The need for the adaptation of the visual information systems to the changing conditions of its operation requires the universalization of system elements.

The versatility of the visual information system at the transport centers involves a high level of unification, which, besides satisfying the requirements of technologists, allows designing ideas to be developed without detailed knowledge of technology and equipment. Based on this approach, visual information systems are divided into three groups according to the general principle of their spatial organization:

- on the principle of flexibility – a flexible spatial organization;
- on the principle of freedom – free space;
- on the principle of modularity – the block-modular structure of the visual information system.

The principle of flexibility is one of the most important principles of modern design and means of transforming the spaces of the transport center for the purpose of multipurpose use, as well as adapting them to changing conditions.

One of the means of implementing this principle is to reduce the share of permanent components of visual information systems that are not subject to change or destruction. Such components are located, equipped and have such design solutions that do not interfere with the transformation and transformation of the entire system.

Spatial organization of visual information systems is based on the differentiation of its components by the degree of complexity of their transformation and re-equipment. System components are divided into three groups:

- groups that are easily transformed without complex equipment;
- groups that have an average complexity of transformation are equipped with technical devices that can be disassembled or modified without disturbing the functioning and perception of systems;
- hardly transformed groups, full of technological equipment, complex engineering equipment, and special equipment.

One more means of achieving flexibility is the state of the functional and planning organization of transport centers, which allows to transform the premises under the conditions of changing their functional purpose without

changing the constructive scheme of visual information systems or the use of mobile, interchangeable, suspended its elements.

The principle of freedom – the free space of the organization of visual information systems – is realized through designer techniques of constructive decision of elements of systems that allow them to achieve their versatility and diversity in accordance with changed conditions and requirements. According to this principle, visual information systems can be used in large-sized premises, they use rational expository and structural materials, thus achieving high cost-effectiveness of design solutions.

The use of this principle has become quite widespread in transport centers with vast expanses, where the visual organization of the architectural environment allows optimizing visual information systems in the areas of economic use of resources and aesthetization of perception.

The principle of modularity – the block-modular structure of the visual information system – is used in architecture and design for more than 50 years, which allows us to determine that the module in the system of visual information of transport centers is a conditionally selected element of a system or a group of elements that have a meaningful dependence and interconnections with system and relative spatial and functional independence.

The formation of the block-modular structure of the visual information system involves the use of elements and products with a high degree of factory readiness that are produced at specialized enterprises, which significantly reduces the volume of installation work and the cost of the whole system as a whole.

**Conclusions.** Thus, the advantages of using these principles of simulation of visual information systems in transport centers is the possibility of their adaptation to requirements and conditions that change over time, the possibility of multifunctional use both of the elements of the system and of the spaces in which they are located. Such approaches to the design of visual information systems make the latter necessary not only when modernizing or re-engineering the transport centers, but also by redeploying to new places in the future.

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**ECONOMIC  
CONNECTIONS IN  
LOGISTIC  
FORMATION SALE  
POTENTIAL  
REALIZATION**

To a large extent, the problems of trade enterprises activities are connected with the system of economic relations organization established in recent years, focused on a combination of weakly systematized wholesale purchases of goods from wholesale companies and local commodity producers and the supply of goods by well-known brands to distribution companies. This led to a low level of planning and

controllability of the processes of goods range and supplies of goods forming, increasing the number of goods delivered to each facility, against the backdrop of a small number of goods packaging units, the small cost of each consignment of goods and its low completeness. The consequence of such deliveries system is the growth of transport costs associated with the promotion of goods, their prices for the end consumer.

Application of the logistic concept in the activities of enterprises is realized through the identification of the main idea and implementation of the logistic approach. Logistic approach is a way of managing resources, characterized by a change in the priorities of economic activity in favor of management of material flows. Logistic approach determines that the main role in the implementation of economic activity of the enterprise is not the product itself, but the process in the form of flow (material, informational, financial, etc.). Managing stream processes, their transformation and integration is a new form of management that replaces the traditional, both the level of creativity and the effectiveness of the end results. Taking into account the experience of economically developed countries, it can be argued that the effective application of the principles of logistic approach in the activity of enterprises contributes to increase their level of competence and ensures successful activity in the competition.

A significant part of the logistic activity processes of trading enterprise presupposes the need for its interaction with other participants in the logistical chain and the implementation in such a process of interaction the complex of logistical operations, requiring a high level of its coherence and coordination. Logistics in its understanding as a complex of economic activity encompasses industrial, business, legal, organizational, economical aspects and includes a complex of various functions that support commodity-promotion processes. Accordingly, the logistic management service of the trade enterprises should be guided by the creation of an integrated production – trading – transport system (of logistic formation) that would provide support of necessary goods of the necessary quality in the required quantity in the designated place and time with minimal expenses [2; 3; 4; 5; 6]. At the same time, internal logistical operations should be maximally integrated not only in the trade and technological process of the given enterprise, but also to be consistent with the whole chain of deliveries on the basis of the organizational, technical and technological, informational, economic and methodological consolidation of execution. Before its participants



there is a problem of organizing the movement of the material flow as a single chain of affairs, in which the central system-forming element is a certain kind of product (commodity).

Integrated logistics formation at the macroeconomic level acts as a complex economic system, which is designed to achieve the economic goals of the participants by supplying the goods (other material values) necessary to consumers and combining in its composition: a set of business entities and their structural units, involved in the process of movement and transformation of material flow; a set of buildings, structures, technical facilities, other elements of the infrastructure used during this movement; a complex of logistic processes (technologies, actions, works, operations), the fulfillment of which is a necessary condition for the existence of a material flow as a set of goods for which logistics operations are carried out in space and time, as well as a set of objects, facilities and actions, which are related to the management of this logistic system. The task of trade enterprise management is the transition to new approaches to the management of commodity flows: the diversification of priorities from the discrete management of commodity flows and reserves within the limits of the separate enterprise to the operation of the category of the goods through-flow and ensuring consistency the actions of all the lines of the process of promoting the goods' flow. Therefore, the question of adopting strategic and tactical decisions regarding the selection of optimal methods, techniques, and organizational forms of participants interaction in logistics chains should be the subject of analysis during the design of intelligent supply chains with the participation of trade enterprises. The solution of this problem is possible with application of the theory and tools of logistics to the organization of material flows and the formation of economic relations system of trade enterprises.

The objective condition for the effective functioning of an agricultural or agrarian product is the clear interaction at all stages of the single process of “supply of resources – production – sales”. Trade is an active participant of this process, ensuring interaction between the phases of “supply of resources – production” and “production – sales”. Therefore, the enterprises of the trade relies on the tasks of shortening the duration and optimization of the forms, methods, ways of elaboration of individual operations, processes, which ensure the commodity exchange and promotion of material flows to industrial and agrarian enterprises and commodity flows to end consumers at the lowest cost.

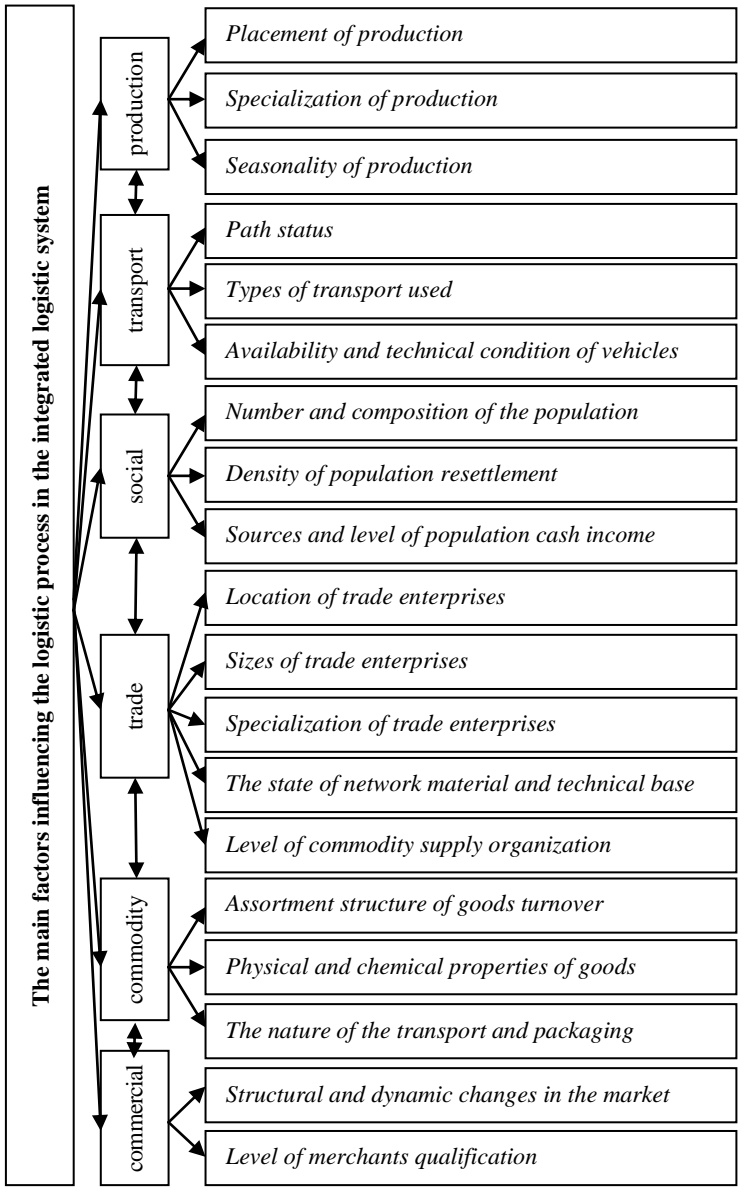
The research of Ukrainian retailer trade enterprises showed that the weakness of the material and technical base and the deficiencies in the organization of their commercial work cause the enterprises to refuse to engage in wholesale trade in the process of commodity sales, the lack of commercial transactions substantiation for the procurement of goods and the choice of supply, the low level of range of goods formation and the management of commodity stocks, etc. It updates the formation of trade enterprises own logistics systems and their integration into the existing supply chains of goods.

The precondition for the creation of integrated logistic units in the economy of region or country is the organizational, technological and economic unity of the flow processes of commodity exchange and reproduction. The central object of the logistics system in the sphere of circulation is the commodity flow, which is formed as a result of transportation, warehousing, execution of other logistic operations, necessary for time and space transfer of labor products from the industrial sphere to consumers. The movement of goods flows in the sphere of circulation covers the interrelated stages of the process of commodity circulation, which gives reason to consider the stages of goods flow as the organizational and economic links of a single logistics chain. The movement of commodity flows in the system of commodity distribution is determined by a set of factors (Figure 3.1), which makes optimization of business connections of all involved actors.

By modern science, economic relations are treated as relations between suppliers and consumers of products, through which the volume, timing and order of products supply, their quality, assortment, etc. are regulated; as a complex of relationships between independent economic entities formed in the process of their joint activity in the production of products, its material support and promotion of products in both processed and unprocessed form to consumers in order to meet their needs. Studying the diversity of economic ties allows us to distinguish economic ties between production (goods), procurement of products (goods), sales of purchased and processed products, provision of material and technical resources, and infrastructure support.

Economic relations are organized for the same purpose as in general logistics activities: to meet the needs of end-users in certain types of goods by ensuring their systematic flow through logistics channels and chains.

In order for goods to satisfy the needs of any consumer, they must be delivered to the consumer; similarly, the supply of material resources (in



**Figure 3.1 Grouping of the factors influencing the organization of the process of commodity circulation in the integrated logistic system**

the form of raw materials, equipment, machinery and spare parts, containers, etc.) to the industrial (mainly food and light industry) and agricultural enterprises, as well as the receipt of manufactured goods from producers to purchasing, processing or wholesale (retail) trade enterprises should be supported. To emphasize – such delivery should be organized in a certain nomenclature, with certain properties, the required quality, in a specific quantity and in certain places and with the minimum necessary for this general expenses.

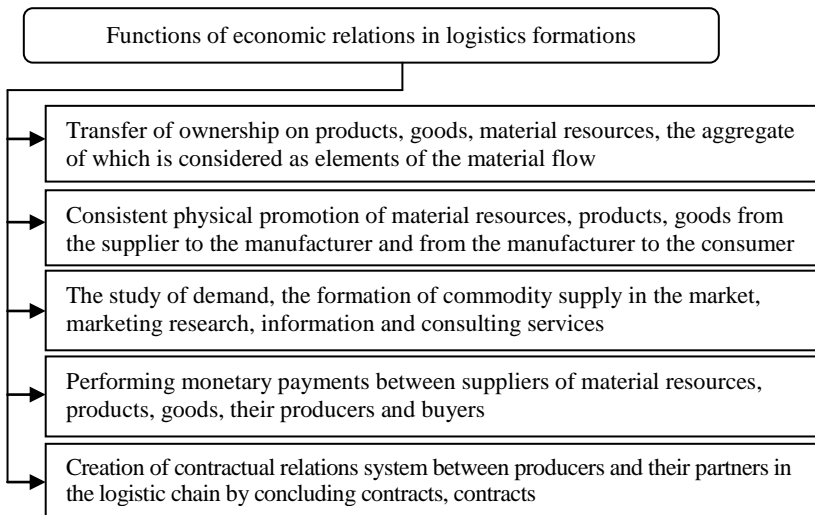
Thus, the economic interests of commodity producers are combined with the economic interests of producers of material resources, equipment, machinery, vehicles, packaging and packaging materials, other material resources, as well as enterprises of industry, trade and transport around the general object of their joint activities within logistics chain, which provides for inextricable organizational and technological affinity of its participants. It is important to note that the movement of material flows in such economic systems is accompanied by the flow of information, money, services, and manpower, which together with material flows form a logistics system of a macroeconomic scale.

The central place in the formation of such a macro-logistical system and the organization of its logistic flows movement is the definition of the order and features of the promotion of the material flow logistic chain elements and, accordingly, the organization of the supply chain in the process of forming economic connections. Considering economic connections through the prism of the organization of of material flow movement, one can distinguish their functions in logistic formations (in particular, supply chains) (Figure 3.2).

The system of economic relations includes such basic elements as: economic contracts; control over observance of contractual obligations; application of economic sanctions; participation in fairs, exhibitions, other promotional events; quality assurance (examination) of goods delivered in accordance with concluded agreements; establishment of optimal financial relations; application of administrative-legal norms, etc. From the level of the efficiency of such a system of economic relations in the economy depends both satisfying the needs of consumers in the final product, as well as achieving the strategic objectives involved in the business entities involved in the relevant logistics chains.

It should be noted that the domestic trade of Ukraine has a broad and, at the same time, a complex system of economic ties. These relations reflect not only economic, but also organizational, production, technological, financial and other relations, which are formed between

participants of logistic chains (integration logistic formations) in the course of their activity. At the same time, the basis of the activities of retailers on the foreground are issues of the formation and implementation of economic connections with the supply of goods and their subsequent sale to end users, which determines the priority in the trading system of this type of economic relations, as commercial links. At the same time, the variety of commodity assortment and the specifics of production, transportation, sale and consumption of goods determined by this circumstance determine the system and structure of commercial relations of individual retail enterprises.



**Figure 3.2 Functions of economic relations in logistics formations**

A leading and decisive role in the formation of the system of economic relations are economic contracts, which are the main organizational and legal tool, through which enterprises determine the choice of a particular type of communications at the level of the agreement and document economic, legal, technological, commercial, social and other aspects of relationships with partners in the distribution and logistics chain. They reflect agreed parameters between the partners of the material flow that arises due to the formation of the supply chain.

An analysis of the traditional practice of organizing economic relations of retail trade enterprises confirms the existence of significant shortcomings and problems, which is manifested in the lack of clear

definition of the content and terms of contracts. When wholesale purchases of products for the formation of the system of economic (commercial) communications, as shown by the study, retailers apply sales contracts, supply contracts, sales agreements, product realization contracts, etc. Describing these documents, it should be noted that a significant part of them does not meet the standards and requirements of legal practice, but the conditions they formulated are pre-disadvantageous for one of the parties (as a rule, the buyer – the retailer). Thus, one of the most important elements of any economic contract is the subject of a contract, which includes provisions on the quantity, quality, total value of goods to deliver. According to the results of the study of the contracts concluded by the enterprises of retail trade, it was revealed: a) in most contracts the subject matter of the contract is not formulated clearly enough or even left out of the attention or formulated in a way unprofitable for the enterprise-buyer; b) the contract does not indicate the quantity of goods to be supplied; c) no specific requirements concerning the quality of goods are established; no references to existing standards exist; d) the conditions most often defined in the contracts are disadvantageous to the retail enterprise (the application of prepayment for the purchase of goods is highly undesirable for the wholesale buyer, since it makes use of bank loans and the need to pay interest on them); e) most agreements provide for delivery on the conditions of decentralized import (self-delivery) (sometimes other options are envisaged – by mail, luggage, transport of the supplier, but all transport costs are transferred to the buyer); f) the prices for the goods to be supplied are not controlled at all or are poorly controlled by the buyer – in some contracts, it is foreseen to set prices for each type of product separately for each delivery in the invoices (as a consequence, the retail enterprise as a wholesale customer is not guaranteed from unreasonable increase of the selling prices, since their level is not even consistent); g) in a number of contracts in general there are no conditions regarding the order and terms of supply of goods, etc.

This situation does not allow trade companies to determine the parameters of the product flow (in terms of quantity, range, quality, time and place of delivery, price level, etc.) and ensure that they are consistent with the needs and interests of the flow of buyers (end users). Therefore, actual for retail companies is the development of certain methodological approaches to adopt commercial decisions of strategic and tactical nature, which are associated with the formation of a system of commercial relations, the characteristic feature of which is the presence of many relationship aspects of large number of enterprises with different

economic interests [1, p. 83]. One of the solutions to this problem is the application of the principles and tools of logistics to the formation of economic systems, because in fact, economic relations are manifested through the delivery of goods in certain volumes, assortment, time interval, etc.

The ratio of the results of the economic connections implementation and the costs of their formation characterizes the effectiveness of business connections of the enterprise. Indicators of the effectiveness of observance (realization) of economic connections may be the amount of profit, the volume of goods received, the volume of trade, as well as material and equal to them costs associated with the formation and observance of economic ties.

Modern problems of retail trade enterprises for the formation of economic connections (and, consequently, the creation of an economic system for ensuring the supply of goods to consumers) consists in the fact that the construction of such a system is practically separate in each of the functional subsystems (production, warehousing, trunk transport), which are intended to ensure the flow of material flow and effective management of it. Each of the subsystems functions as an independent economic system, isolated from its partners in the technical, technological, economic and methodological aspects. In accordance with the requirements of the concept of logistics, decisions on the organization of material flows (which arise as a result of the implementation of economic ties) in logistic systems should be taken in conjunction with the rest of the solutions, the general objective of which is to optimize the total material flow within the established system of economic links. Considering that the logistic approach to the formation of economic relations of enterprises, including trade, is of great practical importance, it should be considered as a scientific and theoretical basis for the process of adoption and observance of alternative solutions in specific market conditions; as a basis for ensuring a focused process, carried out in time and space, changing market conditions and with certain information, organizational and resource potential capabilities of the enterprise. In this case, the formation of economic relations of the enterprise must be related to the main purpose of its socio-economic development, to take into account market conditions, to be balanced with each other. In defining the goals of forming economic relations, it is necessary to take into account the peculiarities of the development and sales potential of the enterprise in the relevant period of its life cycle. On the other hand, the external environment of the enterprise's activity, which is dynamically changing,

necessitates the adaptation of the goals of forming the economic connections of the enterprise to these changes. The use of the theory of logistics allows to bring the activity of trade enterprises in the formation of the system of economic (including commercial) connections in accordance with the system goals of economic and financial activity of the enterprise, the capabilities of the resource potential of their achievement and the conditions of interaction with counteragents in logistics formations with the participation of enterprises trade.

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### **UKRAINE’S AGRICULTURE COMPETITIVENESS: ASSESSMENT, ANALYSIS AND STRATEGIC DIRECTIONS OF ITS ENHANCING**

Ukraine’s agriculture is being actively included in the processes of international economic integration. Ukraine’s choice of the European course of development and the establishing of the Association Agreement between Ukraine and the European Union and its member states; implementation of the Ukraine-2020 Sustainable Development



Strategy requires urgent changes in agrarian policy, first and foremost, in the context of ensuring the agriculture competitiveness, creating conditions for investing, implementing the principles of free and undistorted competition in trade relations, ensuring sustainable development of agricultural production.

Nowadays Ukraine's agriculture is the engine of the national economy and the generator of currency revenue. Therefore, the share of gross value added of agriculture in the national economy makes 13.7%. For the last 5 years, it grew more than by 5 percentage points. 17.6% of all busy population is employed in the branch. The agriculture share in the common structure of goods export from Ukraine in 2017 made 23.8%. Many enterprises of this branch are already rather competitive subjects of the domestic and foreign market. However, considering internal social and economic problems, fluctuations of the world market environment, their positions are not stable and require constant attention and retention efforts. It requires the complex of events to assess the level of agriculture competitiveness, to monitor its dynamics, to develop and to implement effective measures for improving it.

In our opinion, it is impossible to take a competitiveness assessment of all types of agricultural production built on standard analysis methods, given that there is a shortage of resources and information. It should be based on indirect methods of determining and also it should consider the compete ability of Ukrainian agricultural manufacture on world commodity markets. As a result, we will receive an integrated index containing the potential ability for enhancing the Ukrainian agriculture competitiveness, reflecting this ability in the trade balance, providing an opportunity for comparative agricultural assessment with a number of industries at home and abroad. This approach allows to refuse some costly research for carrying out standard assessments of the competitiveness of individual products.

The basis for assessing the agriculture competitiveness is the principle: the criterion of competitiveness is efficiency. According to the theory of effective competition (Shumpeter, 2011), the most competitive industries are those where there is the best-organized work in of all business units. The activities efficiency of each enterprise is affected by a significant number of factors – the resources of the enterprise. Therefore, it is about assessing the effectiveness of using these resources.

In the course of the study, we substantiated twenty five key indicators of economic activity performance measurement which make

possible to evaluate agriculture manufacture competitiveness level and its next comparison with other areas of national economy and the economies of other countries (Patyka, 2018). Indicators have been separated into six groups and each of them displays the state of a certain sphere of activity.

Due to each of the indicators has different importance level for counting of the integrated index of agriculture competitiveness ( $I_{CP}$ ) we used expert assessments method to indicate the weight of criteria.

In general, the algorithm for calculating  $I_{CP}$  involves three stages:

The 1-st stage. Calculation of individual indicators of agriculture competitiveness and their conversion into relative quantities.

The 2-nd stage. Calculation of agricultural competitiveness criteria.

The 3-d stage. Calculation of the integrated index of agriculture competitiveness ( $I_{CP}$ ) which is made by the formula:

$$I_{CP} = 0,2 \times E_d + 0,15 \times E_p + 0,14 \times P + 0,08 \times F_s + 0,18 \times E_b + 0,25 \times E_{FEA}$$

where,  $I_{CP}$  – the integrated index of agriculture competitiveness;

$E_d$  – index of industry economic development;

$E_p$  – index of effectiveness of production process management;

$P$  – index of agriculture profitability;

$F_s$  – index of the industry's financial stability and solvency;

$E_b$  – index of business activity in the industry, the effectiveness of the sales management and the products promotion on the market;

$E_{FEA}$  – index of industry's participation in foreign economic activity.

This method gives us an opportunity to quickly identify the weak and strong sides of the industry, that is, its competitiveness, and, thus, develop measures to increase it. In this way, the assessment of competitiveness covers all the important characteristics of the industry economic activity and prevents duplication of individual indicators, allows to quickly and objectively get a picture of the situation on the sectoral market. This method can be used like a variant of operational control during index comparison through the different intervals of time. This kind of analysis can be branched considering such additional indexes like market development coefficient, quality, property status rating, marketing activity etc. It depends on specific competitiveness factors that have an impact on the industry.

Using official statistics data over 2012-2017 we rated the level of Ukraine's agriculture competitiveness according to our made up

methodology (Patyka, 2018). The calculation of the integral index of agriculture competitiveness in Ukraine ( $I_{CP}$ ), the values of partial indices and their dynamics are presented in Table 3.1.

Table 3.1

**Calculation of the integrated index of Ukraine's agriculture competitiveness**

Indexes	Years				
	2013	2014	2015	2016	2017
Industry economic development index, $E_d$	1,069	0,993	1,091	1,067	1,055
Production process management effectiveness index, $E_p$	1,168	1,368	1,289	1,232	1,038
Agriculture profitability index, $P$	0,499	1,361	2,962	0,539	1,032
Industry's financial sustainability and solvency index, $F_s$	0,793	0,756	2,884	0,415	0,944
The index of industry's business activity, sales management and products promotion, $E_b$	0,826	1,352	1,423	0,816	1,160
Foreign economic activity participation index, $E_{FEA}$	0,875	0,862	0,866	0,945	0,982
<b>The integral index of agriculture competitiveness, <math>I_{CP}</math></b>	<b>0,890</b>	<b>1,114</b>	<b>1,530</b>	<b>0,890</b>	<b>1,041</b>

Source: calculated by the author according to the methodology for calculating the integrated index of competitiveness. The data from the State Statistics Service of Ukraine, 2012-2017, National Bank of Ukraine, 2012-2017 and the World Trade Organization, 2012-2017 were used for calculations.

$I_{CP}$  dynamics (1,093<sup>1</sup>) first of all was determined by the agriculture profitability index (1,279). High indicators of profitability, return on equity, assets, and current assets show significant structural and organizational positive developments in the industry, especially in 2015.

The second factor determining the  $I_{CP}$  dynamics were indicators that form the production process management effectiveness index (1,219), namely by increasing the volumes of production and sales of agricultural products, which positively affected such indicators as labour productivity and total factor productivity (TFP).

The third most significant factor influencing the level of agriculture competitiveness in Ukraine was the increase in the amount of equity capital, which positively affected the financial sustainability and

<sup>1</sup> hereafter the average arithmetic for 2012-2017

solvency of agriculture and ensured the operational autonomy of economic entities.

The level of the index of industry's business activity, sales management and products promotion is high enough (1,116). This index had been growing up until 2016 and its maximum level was 1,423 in 2015. This testifies to the effective production and sales activity, the correctness of establishing the price of goods, the positive attitude of consumers to the industry's products and characterizes the high efficiency of the main activities outside the connection with financial transactions and norms of fiscal regulation, that is, first and foremost, satisfaction of demand for agricultural products.

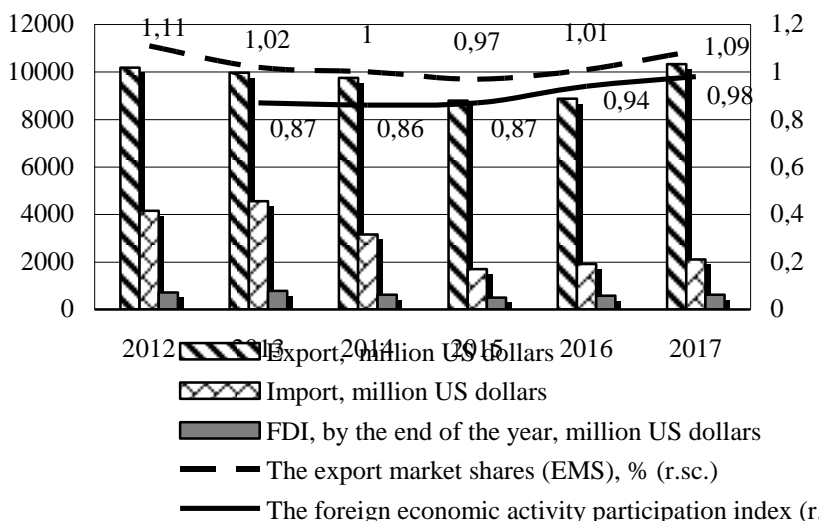
The next factor determining the dynamics of the integrated index of agriculture competitiveness in Ukraine is the level of industry economic development. Ukrainian agriculture is developing quite dynamically by the main macroeconomic indicators. Thus, the industry's share in the GDP of the country is more than 10%. The last 5 years it had been grown up more than 2 percentage points, but recently it has been somewhat lowered. There is also an increase in the volume of investments in domestic agriculture, especially since 2015, which should contribute to the modernization of the industry.

The results of measuring the integrated index of Ukraine's agriculture competitiveness are largely due to the deterrent effect of low agricultural participation in a foreign economic activity. The international competitiveness of Ukraine's agriculture in the study was assessed through the definition of trade indices, foreign direct investment inflow and the export market shares (EMS). The arguments for using such a set of indicators to international competitiveness assessment are that significant exports and high EMS values indicate that the industry is competitive in the global market. Also the time trends indicate competitiveness dynamics.

The aggregate index for this group is only 0,906 - despite the steady growth of export volumes and correspondingly an increase in the share of the world goods market occupied by Ukrainian agricultural products. Imports increase (growth rate in 2016 even was more than export growth rates) and insignificant volumes of foreign investments into Ukrainian agriculture were a deterrent factors here (Figure 3.3). For the period of 2010-2017, their share in total volumes of FDI in Ukraine was only 1.72-1.33%.

The integral index of agriculture competitiveness in Ukraine had been getting more until 2015 an average of 30% annually. However, in

2016 it became significantly lower which attests to impairment of the industry situation and therefore about declining of agriculture sector competitiveness. In 2017, the situation improved somewhat and the index started to rise again (by 11.4% compared to 2016), but did not reach the level of 2015.



**Figure 3.3 Foreign economic activity of Ukraine's agriculture**

Source: compiled by the author according to data provided by the State Statistics Service of Ukraine, 2012-2017 and the World Trade Organization, 2012-2017.

Taking into account all the foregoing and in order to increase the competitiveness of Ukrainian agriculture the Strategy is necessary for many reasons: minimizing negative socio-economic consequences; external goods markets increasing; foreign direct investment attraction in the industry; technological updating and improving the production structure and as a result achieving high and stable indicators of industry development; balanced development of rural settlements, it is necessary to work out State Strategy for Increasing the of Ukraine's Agriculture Competitiveness (hereinafter - the Strategy). The Strategy will include the set of principles, organizational measures, economic methods, tools for the stated purpose achievement.

The Strategy purpose is Ukraine's agriculture competitiveness increasing and implementation strategic priorities for its development by

including into the system of the international labour division.

The Strategy must be realized on such levels:

- macrolevel (the State level – Ministry of Agrarian Policy and Food of Ukraine, Ministry of Economic Development and Trade of Ukraine, Ministry of Finance of Ukraine, Antimonopoly Committee of Ukraine, etc.). Socio-economic, foreign trade, agrarian, financial, fiscal and antimonopoly-competitive policy priority goals definition and directions should be defined through the Strategy's view. Coordination of activity through the context of the state policy directions, regulatory framework improvement and its harmonization according to Ukraine-European Union Association Agreement (The Verkhovna Rada of Ukraine, 2014) in the direction the agriculture competitiveness enhancing, market transparency, creating conditions for investment, implementation of principles of “free and undistorted competition in trade relations and sustainable development of agricultural production”, infrastructure development, information and communication support, evaluation, monitoring and control of the Strategy, necessary and sufficient level of state intervention are necessary;

- mesolevel (regional and local level – local executive authorities, profile and regional agrarian associations, agricultural community unions, etc.). Regional policy strategies formation (competitiveness enhancement programs, small and medium business development, investment and innovation development, etc.) are necessary. Measures to ensure agriculture competitiveness included in program documents, introduction of measures for its increasing and promotion tools selection taking into account, regional and local peculiarities of development must be selected. Assessment, control and monitoring, information and communication support are needed.

- microlevel (agricultural enterprises). Selection of methods and tools for competitiveness enhancing (modernization and implementation of resource and energy saving technologies, production of quality products that meet the requirements and standards of the external market, livestock breeding development, selection, seed production, agrotechnologies and agriculture production models based on organic agronomy principles, forming of positive enterprise and products image, etc.) is needed.

In the future, the Strategy will achieve the following goals:

- ensuring a stable enhancing of Ukraine's agriculture competitiveness, that is able for dynamical development in conditions of increasing competition on international goods and services markets;

- expansion of the share of the world goods export market by more active involving of Ukrainian agriculture into the system of international labour division, export volumes increasing and currency earnings;

- foreign investments inflows increasing into agriculture which will be accompanied with modern resource-saving and environmentally safe types of technologies. It will contribute for energy consumption reducing per unit of output, rational using of the agriculture raw material, ensuring the product competitiveness of enterprises with foreign investments in international markets;

- preventing unfair competition on national and world market of agricultural products.

The government should pursue a targeted policy about development and support of agrarian sector for its competitiveness enhancing. State, production and civil interests harmonization must be prioritized with forming of innovation and social-oriented development model. The main measures of state policy should be:

- ensuring financial stabilization by: preserving the parities of exchange between agriculture and other spheres and sectors of the economy, ensuring access of producers to capital, intensifying its inflowing, synchronization the formation of interrelated structural elements of assets and liabilities for ensuring a sufficient level of solvency and stable value of working capital;

- monitoring and preventing unfair competition against national agricultural producers both on Ukrainian and foreign markets;

- the national agricultural producer's interests protection through the implementation of foreign economic activity and the application of international anti-dumping procedures, the conclusion of international agreements, the harmonization of terms and conditions of delivery, quality standards, etc.;

- competitive export structure forming on foreign markets due to organic and high added value products manufacture increasing;

- development of agrotechnologies and agricultural production systems based on the principles of organic farming and using biotechnology;

- agricultural production modernization in the context of reducing its energy intensity and labour intensity, high value-added products manufacturing and export potential growing;

- ensuring a high-efficiency gene pool of agricultural varieties and hybrids of agricultural crops, which will increase productivity and

ensure the quality of products, improve its nutritional quality and nutritional value, increase the storage life, simplify the transportation process, and also increase plants' resistance to pathogens and unfavourable soil-climatic conditions;

- support for improvement of farms factor productivity;
- creation of logistics centres, development of transport infrastructure and road construction;
- ensuring an investment attractiveness of agriculture, development of public-private investments practices, promotion of long-term private financial investments, attraction of foreign direct investments;
- improvement of agricultural risk management system;
- ensuring a balance between professional education and labour demand according to the market needs so on.

The further integration into the global economic space and more active participation in foreign economic activity will improve the level of Ukraine's agriculture competitiveness. Expansion of access to world markets and using the opportunities of Ukraine-European Union Association Agreement will ensure the growing of Ukrainian exports. This will create conditions for increasing production volumes, revenue increasing, employees wages increasing by better labour productivity and growing consumer demand in national market.

In general, all the actions leading to Ukraine's agriculture competitiveness growing must be integrative and use effective tools for their realization.

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### **PERSONNEL MARKETING AS A METHOD TO INCREASE LABOR PRODUCTIVITY**

**Introduction.** In modern conditions, the leading role in the economic development of innovation processes is evident, which causes Ukraine's transition to an innovative model of development, the introduction of fundamentally new advanced technologies, the production of high-tech, science-intensive products. New competition, namely manufacturers focus on non-price policies that technical innovation and product quality become critical, companies require staff professionalism, ability and desire to creatively develop new technologies.

One of the most difficult tasks is to increase the productivity of labor by the method of internal marketing of the personnel of the enterprise, which puts forward a new task – the identification of reserves and factors of productivity growth on the basis of determining its real level in the enterprise.

Today, the marketing of personnel is part of the personnel strategy of

the enterprise, which aims at optimal use of human resources, creating conditions for increasing labor productivity, development of partners and loyalty to the company.

As the employee's personality develops, it is necessary to reconcile the market conditions and the interests of the employees of the enterprise, since the development of production largely requires the planning of its personnel, and a qualitatively new level of economic development can not be achieved without the effective use of marketing tools in the process of personnel management.

Problems of personnel marketing are widely discussed in the scientific literature. In the works [1], [4] the complex system of formation of the internal labor market on the basis of marketing has been developed. The authors of the paper [3] investigate the marketing of personnel in the context of the development and implementation of personnel strategy of the enterprise; in work [2], [5] comprehensively disclosed the meaning of the concept of "marketing of personnel" and developed the main provisions of the concept of personnel marketing, separated its internal and external components; [7] considers marketing in the personnel management system as a market strategy focused on labor market analysis with a view to long-term provision of personnel.

Problems of increasing productivity are a constant object of research of domestic scientists. Along with the theoretical positions, conclusions and recommendations provided by domestic scientists, the questions of the quantitative expression of labor productivity indicators, the application of methods and models for the discovery of productive labor at the expense of the human factor of production remain outstandingly worked out. Taking into account the above, the purpose of this article is to model the productivity of labor based on the methods of marketing personnel of the enterprise.

**Characteristic of the internal marketing of personnel.** The staff of an enterprise is an active part of any process and can actively contribute to the growth of production and development of the enterprise. However, staff can be indifferent to their activities and their own functional responsibilities, to withstand the innovations. To avoid these negative phenomena, effective management of the enterprise is possible only with a coherent combination of elements of external and internal marketing.

Internal marketing of personnel is aimed at maximally effective organization of its activities by creating the necessary working conditions, incentives and motives.

Application of a marketing approach will increase the real impact of the human factor in the process of economic activity. The urgency of this direction is conditioned by the need for interaction between the markets of workplaces, buyers of labor and the labor force itself, as well as the need for improvement of intra-firm personnel regulation [3; p. 168].

Personnel marketing should be considered as a system, the main elements of which are the external environment (labor market, recruitment, public policy in the field of education and employment) and the internal environment (adaptation, training, development and evaluation of personnel, organization of the system of motivation and remuneration, delegation of authority, communication and information flows).

A personnel marketing is considered from the standpoint of external and internal marketing. External marketing of personnel is a condition for the growth of human resources through the search and attraction of the necessary resources from the external resources of the necessary labor force. At the same time, the other target group - existing personnel and internal aspects of the activity, connected with the development of available personnel, motivation, involvement in production, increase of productive labor force, remain unnoticed.

From the positions of the second direction, “marketing of personnel should ensure the optimal use of human resources by creating the most favorable working conditions, which will result in increased efficiency, professional development and professional qualification promotion of the worker” [8].

Particular importance of the use of internal marketing personnel acquires in the conditions of the economic crisis. When companies are limited in their ability to engage external personnel, the focus on personnel management using the elements of marketing personnel should focus on employees already working in the enterprise. Particular attention should be paid to retaining existing staff at the enterprise, because in the case of neglecting the aspects of external marketing of personnel, which should complement the internal marketing of staff, the integrity of the marketing itself of personnel at the enterprise is lost in any conditions.

In this case, marketing of personnel involves the use of marketing approach to employees. This means encouraging, coordinating and staffing for effective implementation of enterprise strategies, on the one hand, and meeting the needs of employees on the other.

Consequently, internal marketing of personnel is a necessary kind of activity with the management of existing personnel, and especially in such aspects, which have always been relevant in enterprises: improving the productivity of labor, motivation of personnel and its development. From these positions it is relevant to determine the factors of increasing the productivity of existing personnel of the enterprise and to identify the reserves for its growth.

A personnel marketing is a type of management activity, so it performs a number of important managerial functions. There are three functions: informational, analytical and communicative. According to analytics marketing staff processes all the information and prepares new information for management decisions to develop the necessary measures to increase the competitiveness of the company and its market [6; p. 114].

**Methodology.** The need to study the factors affecting the process of labor and production is dictated by continuous technical and organizational progress. In order to determine the dependence of labor productivity on factors influencing it, a multivariate analysis was carried out at the enterprise.

To construct a mathematical model as an optimization parameter, the output per one worker ( $Y$ ), and the indicators that influence it are taken.

The method of expert evaluation highlighted seven factors whose impact on productivity turns through performance indicators:

- coefficient of stability of personnel ( $X1$ );
- coefficient of useful use of working time ( $X2$ );
- employment rate of workers ( $X3$ );
- the share of workers with higher and secondary education ( $X4$ );
- coefficient of employment of workers by qualification ( $X5$ );
- average qualification level of workers ( $X6$ );
- social and professional structure of workers ( $X7$ ).

For the construction of the mathematical model data from the industrial company “Litma Ltd” for the last three years by quarters was used. The enterprise produces high-quality products of a wide range. The technical base of the enterprise consists of high-tech equipment of foreign production, including robotic complexes.

As a result of the correlation analysis, we obtain the equation of multiple regression, as well as the coefficients of pair correlation. Calculations have shown that the correlation between the indicators is strong ( $R = 0,9079$ ) and the model accurately reflects the investigated process.

Among the individual factors, the greatest influence on productivity is the X2 coefficient of use of working time (Table 3.2).

Table 3.2

**Coefficients of pair correlation**

<i>Indicators of staff performance</i>	<i>The value of the pair correlation coefficients</i>
<i>Stability of personnel</i>	0,702335
<i>Useful working time</i>	0,881768
<i>Employment of workers</i>	0,10368
<i>Workers with higher and secondary education</i>	-0,56132
<i>Use of workers by qualification</i>	0,394694
<i>Use of workers by qualification</i>	0,72692
<i>Social-professional structure of workers</i>	0,468516

*Source: Author's Development*

In terms of increasing production of middle level workers X6 negative impact on productivity ( $r_6=-0,73$ ). Negative influence also has a share of workers with higher and secondary education ( $r_7=0,47$ ). Other factors X3 (employment coefficient of workers) and X5 (coefficient of employment of workers on qualification) – affect labor productivity to a small extent ( $r_3=0,10$  ,  $r_5=0,39$ ).

In the data array there is a multicollinearity (a strong close correlation relationship) between the factors X1 and X2 ( $r_{x_1x_2}=0,81$ ), indicating the presence of multicollinearity between these factors. To eliminate multicollinearity in the data array between factors X1 and X2 ( $r_{x_1x_2}=0,81$ ), a decision was made to exclude from the model of the factors X1 and X3.

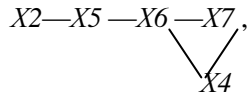
In view of the foregoing, a new linear multivariate econometric model is constructed:

$$Y = -14,20882 + 13,07029X_2 + 39,1023X_4 - 2,52175X_5 - 8,219667X_6 + 44,53334X_7 \quad (3.1)$$

The analysis of the model shows that the factors X5 and X6 negatively influence the conditions of the enterprise on the output. Indeed, the higher the qualification of the worker, so his work is less specialized and more universal than workers with lower qualifications, which causes a negative impact on productivity. A similar trend takes place in relation to factor X6.

Multi-factor labor productivity models allow us to conclude on the impact of the totality of factors in general, on the change in the level of

productivity when changing each of the factors. Application of these models allows to calculate reserves of productivity growth, to develop measures for improvement of personnel management of the enterprise. In addition, modeling helps to see the general picture of the phenomenon and quantify the role of factors and their interaction. The factors of the model (3.1) form a chain graph,



the length of the path in which it is expedient to reduce using the means of successive seizure of factors.

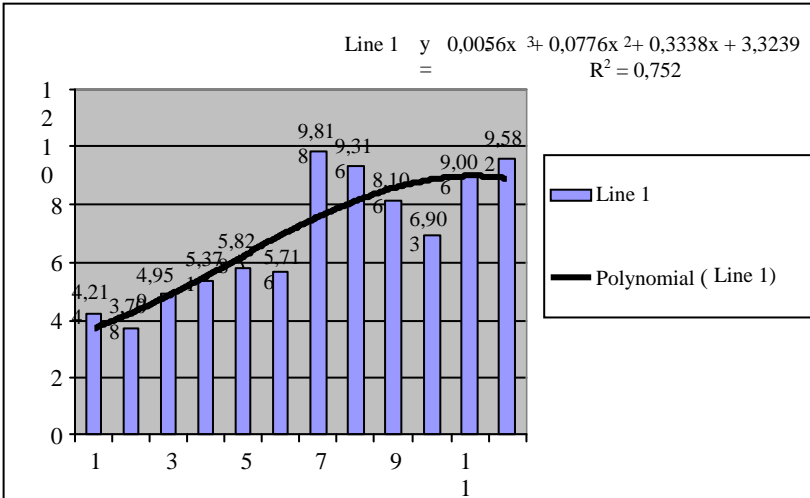
The coefficients of the model characterize the degree of influence of factors on output  $Y$ . In this case, the absolute numerical value of the coefficient  $b_i$  shows the rate of change of  $Y$ , depending on the factor investigated by  $X_i$ . The analysis of the signs before the coefficients  $b_i$  specifies the path of the  $X_i$  control for the purposeful change of output  $Y$ . In the resulting model the maximum numerical value has coefficients  $b_4 = 39,1$  and  $b_7 = 44,5$ , hence for the studied region. The most significant socio-occupational structure of workers in the number of industrial and production personnel.

**Results and Discussions.** Thus, according to the results of the analysis of the obtained regression model, we see that it is not necessary to support the use of working time within the limits of 93,10% to increase the productivity of workers and the utilization of skilled workers for – 0,94. Average qualification category of workers should not be higher than 3,72, and the share of workers with higher and secondary education should be increased to 36%. The social-professional structure of workers should be at the level of 74,5%.

The proposed model adequately describes the economic phenomenon. The coefficient of the multiple correlation is 0,91, and the determination factor is 0,82, that is, 82% of the variation in labor productivity is due to the effect of the investigated factors.

The adequacy of the model is estimated using Fisher's  $F$  criterion, the actual value of which was 5,63, and the  $F$ -table – 5,4. Since the actual  $F$  is greater than  $F$  of the table (critical), then with a probability of 0,95 it can be argued that the mathematical model is adequate to the statistical data.

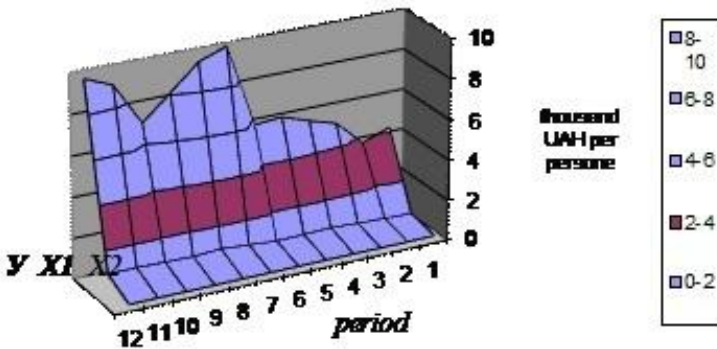
For graphic interpretation of graphs polynomial model number for productivity (Figure 3.4).



**Figure 3.4 Function of productivity**

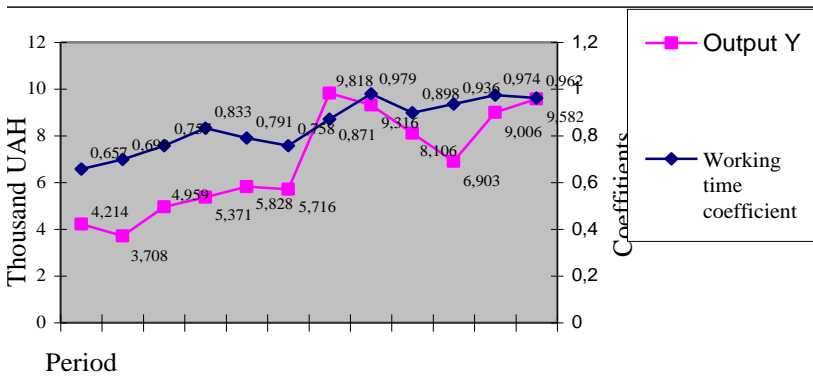
In Figure 3.5 shows the impact on the productivity of the coefficient of useful use of working time and the proportion of workers with higher and secondary special education.

From the figure, it can be seen that the productivity of labor affects the use of working time proportionally, and the proportion of workers with higher and secondary education has a nonlinear effect.



**Figure 3.5 Dependence of labor productivity on the use of working time and the proportion of workers with higher and secondary education**

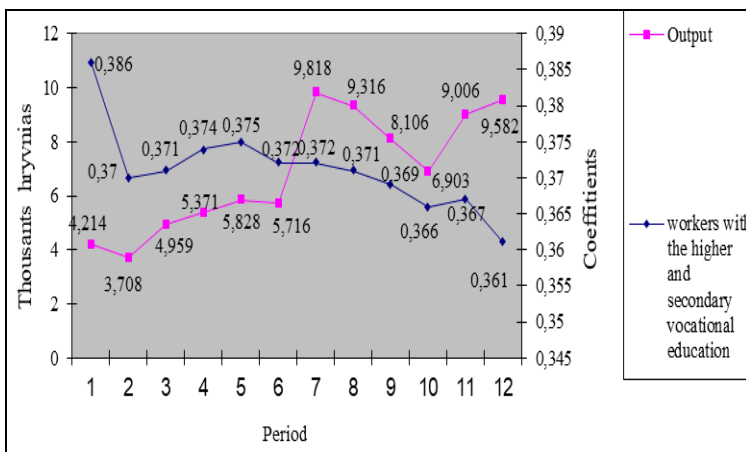
Figure 3.6 shows the dependence of labor productivity and the use of working time, from which it is evident that both indicators tend to increase.



**Figure 3.6 Dynamics of labor productivity and working time coefficient**

The figure shows that the optimal value of the coefficient of use of working time should approach 0,9, which will ensure the growth of labor productivity.

The dependence of labor productivity on the proportion of workers with higher and secondary special education is shown in Figure 3.7.



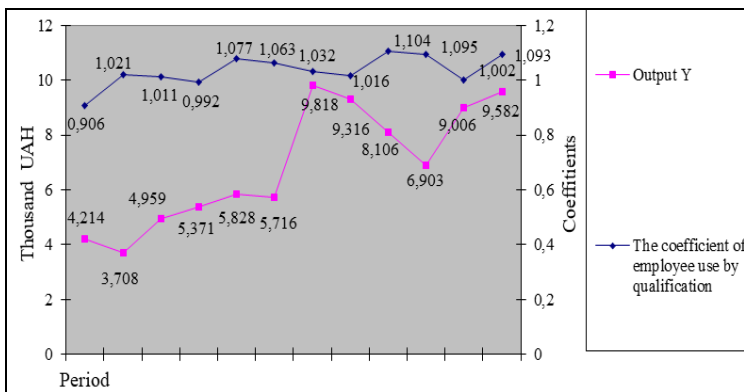
**Figure 3.7 Dependence of labor productivity on the proportion of workers with higher and secondary special education**



At the enterprise there is a tendency to reduce the proportion of workers with higher and secondary education, as such work for highly skilled workers is unattractive. However, productivity increases, because it depends largely on output core workers, whose work does not necessarily require higher education. The optimal level of this indicator should be 40%.

In Figure 3.8 depicts the dependence of labor productivity on the coefficient of employment of workers by qualification.

In the investigated period, the coefficient of use of workers in qualification is more than one. This indicates that the entire potential of the workers is not fully utilized in the enterprise, that is, they carry out less qualified work than they could, and thus lose interest in increasing labor productivity.



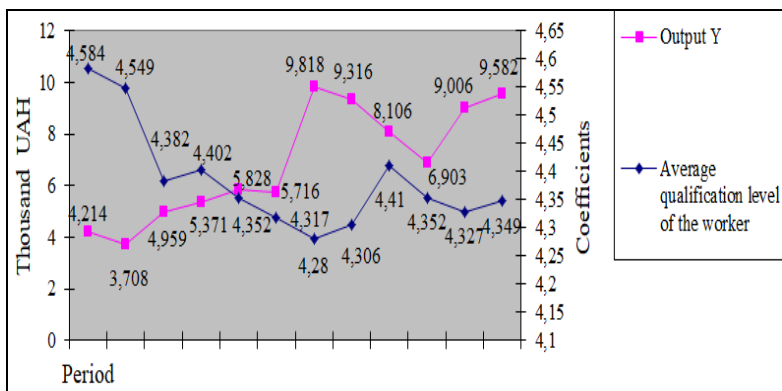
**Figure 3.8 Dynamics of labor productivity use of workers by qualification**

The dependence of labor productivity on the average qualification level and the socio-occupational structure of workers are shown in Figures 3.9 and 3.10.

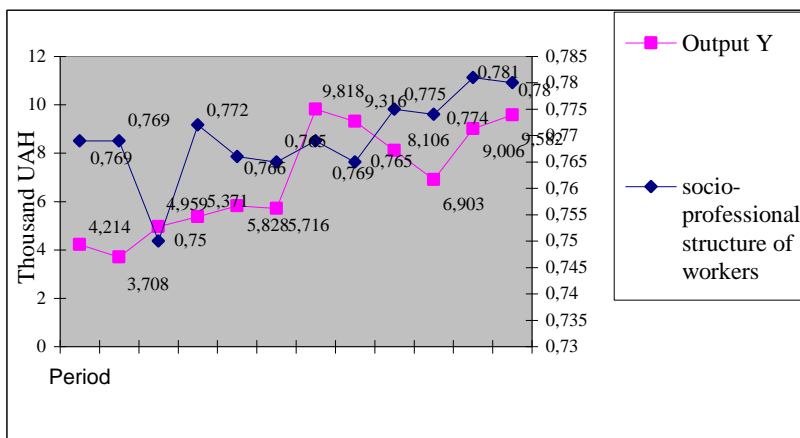
In the studied period there is a decrease in the average qualification level of workers, while improving the social and professional structure of personnel, which affects the growth of labor productivity.

**Conclusions.** The results of modeling the factors of productivity can make the following conclusions:

- the first stage of simulation showed that among the selected factors, the coefficient of use of working time and the coefficient of stability of personnel are most influenced by productivity;



**Figure 3.9 Dynamics of productivity and average qualification level of the worker**



**Figure 3.10 The dynamics of labor productivity and the socio-professional structure of workers**

– found that for improving productivity of workers necessary to provide such levels investigated factors: use of time – within the 93,1% utilization rate for skilled workers – 0,94, the share of workers with higher and secondary education – 36% of social-professional structure of workers – 74,5%;

– assessment of the reliability of the results can be asserted with a probability of 0,95 about the adequacy of the model under study.

The proposed mathematical model is not a standard that is fully suitable for any industrial enterprise. In each case must be considered specific. Not exhausted in this paper and scope of activities for methodological improvement of this system. However, determining the level of social development, its potential, as well as the impact of individual factors on labor productivity is necessary in order to identify the reserves of its growth. The results of this modeling will provide valuable practical recommendations regarding the conditions of activity and the specifics of the functioning of specific enterprises, to develop certain targeted measures to enhance the factors of productivity increase on the basis of the numerical values of their influence. It is important to have the active participation of personnel in the process of improving productivity, developing his intellectual abilities of innovative and creative skills in terms of business innovation and development of science and technology.

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**FORMATION OF STATE  
FINANCIAL POLICY IN  
THE SPHERE OF HIGHER  
EDUCATION AND  
SCIENCE**

The study of the state of financing higher education and science in Ukraine and the experience of developed countries became the basis for a conclusion on the need to enhance the role of universities (hereinafter – higher education institutions (HEIs)) in attracting financial resources necessary to ensure the implementation of their socio-economic functions. The most promising areas of ensuring the adequacy of financial resources for HEIs in modern conditions are determined by the expansion of the practice of public-private partnerships and the improvement of the educational lending system. The implementation of these tasks in modern conditions requires active support from the state, makes it expedient to formulate the foundations of the state financial policy in the field of higher education and science.

The reform of the higher education system of Ukraine is accompanied by the formation of new approaches to the interpretation of the essence and role of higher education while ensuring the macroeconomic interests of the state – the formation and increase of the human capital of the nation, competitiveness and economic security of the state. This significantly changes the goals, content, forms and methods of organization and functioning of the higher education system of Ukraine as a whole and of individual HEIs. The globalization principles of modern education provide for the creation of conditions for purposeful continuous development of the personality as a carrier of human capital based on the application of the competence approach.

At the same time, there is an increase in the significance of the economic efficiency of HEIs, since in market conditions higher education is considered as an “educational service”, which emphasizes the pay nature of its provision without diminishing its social significance.

The above requires the formation of the State Financial Policy in the

field of higher education and science with the following aims: ensuring availability of higher education of preferential population groups; expansion of financial opportunities of applicants for higher education; regulation of the activities of HEIs in the direction of expanding their financial autonomy by promoting the diversification of funding sources; stimulating the active participation of employers in financing higher education and science; stimulation of improvement of the conditions of commercial educational crediting.

The application of the principles of stimulation, alignment and improvement of HEIs activity conditions of all forms of ownership will ensure the higher education system of Ukraine functioning efficiency in the context of the payment of educational services (Zhurakovsky, V., 2003).

The situation in the educational services market of Ukraine is characterized by a high level of competition, which is conditioned by insecurity of the offer by solvent demand. Competitive struggle in the formation of the students contingent makes HEIs increase the quality of educational and related services, which contributes to the development of the system of higher education. However, most of the HEIs of Ukraine having no financial resources necessary to improve the quality of services are forced to maintain a level of competitiveness in the market by reducing the cost of training, which naturally leads to a decrease in its quality and thus hinders the achievement of the strategic goals of reforming the system of higher education.

Ensuring the quality of higher education in Ukraine requires the promotion of non-price competition between HEIs. Effective tools for such a competitive struggle are the training prestige, high positions in national and international universities rankings, which are formed on the basis of providing a high professional level of scientific and pedagogical staff; the proper state of the material and technical base of HEI; the information prevalence about HEI, publications of its scientific and pedagogical staff, including on the Internet; level of infrastructure development, availability of own history, traditions, corporate culture. The effectiveness of these competitive instruments is confirmed by the results of the 2018 entering campaign. Thus, according to the information on 1150 HEIs of Ukraine, up to 30 of them received 28% of all applications by entrants, namely 310,96 thousand applications from 1115 thousand. The first 10 most popular Ukrainian universities received 15% of all applications (TOP-30 of the most popular universities among the entrants, 2018).

The influence significance of marketing activities, namely the level of dissemination of information about the HEI on the Internet (Internet presence) on the number of applications submitting to a particular HEI, is confirmed by the results of regression analysis, during which an independent variable has determined the number of applications submitted to the HEIs in 2018, and dependent one determined HEIs ranking at Webometrics Ranking of World Universities in 2018. As a result of the analysis, there was a tight correlation between the number of applications submitted to HEIs and the ranking of Webometrics Ranking of World Universities in 2018 (RANKING WEB OF UNIVERSITIES, 2018). Thus, according to the logarithmic regression model, the nonlinear correlation coefficient ( $r$ ) is 0,748 and indicates the existence of a strong direct relationship between the factor and the resultant traits. The statistical significance of the model ( $p < 0,001$ ) is very high.

The dependence of the number of applications on the level of the online presence of universities is explained by the effectiveness of marketing tools for impacting entrants, as well as by the fact that the main motive for obtaining higher education in 2000-2015, according to the results of the study “Applicant-2015” (Results of the sociological study “Applicant 2015”, 2015), is “the belief that education will make it possible for a better life”. Applicants evaluate the prospects of getting decent work after higher education in terms of popularity, online presence, and the HEI image.

At the same time, a significant part of the applications submitted by entrants to the most popular Ukrainian universities allows us to conclude that there is a need to optimize the number of HEIs, which possible directions are mergers and acquisitions. Such consolidation of HEIs will ensure the competitiveness of the newly established institutions of higher education due to the synergetic effect from the use of scientific and pedagogical potential, material and technical support, combining marketing efforts to promote the educational services market, namely: creation of a unified research base will provide an opportunity to conduct more large-scale comprehensive research, to promote partnership development; unification of the material and technical base of universities within the same structure will increase the efficiency of its use, optimize costs, ensure a reduction in the level of fixed costs per student; creation of a joint system for marketing purposes will increase the efficiency of marketing activities, improve the position in the national and international rankings of universities; unification of the efforts to find potential partners will optimize HEIs transactional costs, expand the possibilities for

attracting investment resources.

Thus, mergers and acquisitions as well as public-private partnerships minimize the costs of funding education (Korotkova, M.V., Dokukina, S.M. & Kalinycheva, N.L., 2015, p. 278). The expediency of using these methods of HEIs consolidation in Ukraine is confirmed by the similarity of a large number of educational programs, which are used by different universities. The duplication of educational programs is explained by the orientation of Ukrainian HEIs to the entrants' requests that ensures their competitiveness and economic security in the short run. The consolidation of the HEIs will strengthen the positions of the educational services market and take into account the needs of employers in optimizing the composition and structure of the training and educational programs list. That will ensure the competitiveness and economic security of the HEIs in the long run. The improvement of the quality of education and research and the provision of the economy needs by competent specialists were marked as an important social result of mergers and acquisitions of local self-government organizations.

The implementation of state management of the processes of mergers and acquisitions of universities assumes a focus on the integration of such HEIs that carry out training in similar educational programs that are geographically close and have the same form of ownership.

At the same time, it should be noted that the practical implementation of distance learning in HEIs greatly simplifies the process of their integration, providing the possibility of mergers and acquisitions of HEIs located in different regions.

Distance learning is a teacher-driven process that uses educational information provided for learning and organized as a distance course (Delmon, D., p. 19). The advantages of distance learning include increasing the level of academic mobility of students and teachers, simplifying the integration of HEI, increasing the level of the Internet presence of HEI. In addition, distance education reduces the temporal and geographical distance between participants of the educational process and, thus, reduces the financial costs for all participants (Kukhareenko, V.M., p. 41).

It should also be noted that the provision of graduates with decent work should be an important direction in increasing the popularity of certain HEIs and higher education as a whole in conditions of the prevailing motivation for successful employment among entrants. This requires the spread of the cooperation practice between HEIs and other economic actors, in particular using the mechanism of public-private

partnership. The need for close cooperation and integration of universities with business structures is determined by a number of factors, including: direct dependence of the level of competitiveness and economic safety of the HEI on the employment prospects for its graduates; employers' interest in training competent potential employees is caused by a deficit of representatives of certain professions in the labor market; motivation of students (applicants) to obtain higher education is most often caused by the desire to be employed (to receive a decent prestigious highly paid work), which is a difficult task in view of the consequences of the long-term socio-economic crisis in Ukraine; compliance of educational programs with the needs of employers ensures a reduction of imbalance between the system of higher education and the labor market.

The use of the mechanism of public-private partnership is advisable for the implementation of strategic priority projects. Such projects must meet the socio-economic policy of the state and be part of a sectoral strategy (Delmon, D., p. 2).

The mechanism of public-private partnership can become a part of the State Financial Policy of Ukraine in the field of higher education and science, which will bring the higher education system closer to the real economy, diversify funding sources for higher education and science, increase the efficiency of employment of graduates of Ukrainian universities, provide employers with competent employees.

The state represented by the Ministry of Education and Science of Ukraine is responsible for the effectiveness of public-private partnership. It controls, manages and regulates the relationship between the subjects of public-private partnership on a long-term basis. An agreement on a public-private partnership can provide for both incentives for the proper execution of the contract terms, and sanctions for non-compliance. In addition, it is assumed that the Ministry of Education and Science of Ukraine reserves the right to periodically demand reports from the parties of the contract, to send requests for information relating its implementation.

Financing of the public-private partnership mechanism may occur at the expense of such alternative sources as budget funds, funds of juridical persons (private partners), credit resources. This will contribute to increasing the efficiency of using budget funds, ensuring interest in the effectiveness of public-private partnerships of all subjects (state, private partners, financial institutions, students), attracting professionals who have experience in the relevant industry to regulate and coordinate the educational process. The directions for the use of individual sources of



funding within the public-private partnership in the field of education are:

1) state (budget) financing, which ensures creation of conditions for use of the public-private partnership mechanism in the field of education, improvement of the regulatory framework, staffing, improvement of the investment climate;

2) financing at the expense of private partners, which is carried out in accordance with the contract terms on public-private partnership and is directed to the payment for training of individual students (commercial order) or research;

3) educational loans, which provides an increase in the level of investment opportunities of private partners.

It should be noted that in the Law of Ukraine “On Higher Education” (About Higher Education, 2014) the functioning of the higher education system and the strengthening of cooperation between state bodies and business with HEIs are considered as the main directions of “the preparation of competitive human capital” for the development of both individual and country as a whole (About Higher Education, 2014). At the same time, human capital is considered as an intangible asset, the increase of which involves investment in education, health care, cultural development (Schultz, T., 1961). Investments in human capital, namely, in higher education will provide income growth at the personal, micro, macro and global levels in the future. Thus, investments in a specific unique human capital have a high level of efficiency, that determines the interest of economic actors in the employees professional development while ensuring their allegiance. Deepening the knowledge of employees, obtaining additional competencies that directly relate to the specifics of their professional activities is the basis for improving labor efficiency.

Investments in higher education within the framework of public-private partnership will provide employers with an opportunity not only to increase the level of available human capital at the personal and microeconomic levels, but also a targeted formation of specific human capital. In addition, investing in human capital within a public-private partnership will ensure their feasibility on the basis of compulsory employment of a person carrying human capital as an employee of the organization, who is a private partner and invests in the formation and increase of human capital. Taking into account that public-private partnership is a mechanism, which effective functioning involves the implementation of private investment. And ensuring its functioning requires the creation of a favorable investment climate in the state. The absence of a favorable investment climate can lead to ineffective, formal

functioning of the mechanism of public-private partnership.

Creation of a favorable investment climate within the framework of the State financial policy in the field of higher education and science requires the appropriate resources, namely:

1) Financial – financial support of the State policy in the field of higher education and science should be provided in the state budget. The main financial instruments for supporting the development of public-private partnerships in higher education and science can be the following: providing tax incentives for private partners; implementation of the target refinancing by the National Bank of Ukraine for financial and credit institutions; providing guarantees to public-private partnership entities; managing a part of risk; support of economically ineffective projects important for society.

2) Legislative – having in Ukraine the current law “On public-private partnership” (Public-private partnership, 2010) and memorandums of cooperation between the Ministry of Education and Science of Ukraine and certain economic entities, the State financial policy in the field of higher education and science provides for: introduction of amendments to the Tax Code of Ukraine aimed at regulating tax exemptions of a part of private partner profit, that is invested in higher education or science under the terms of a public-private partnership; drafting and adopting resolutions of the National Bank of Ukraine on conditions of targeted bank refinancing; development of standard contracts for commercial educational lending and public-private partnership.

3) Personnel – involvement of experienced, competent, responsible specialists to the development of the State Financial Policy in the field of higher education and science of experienced as a necessary condition for its effectiveness.

In addition, the necessary direction of the implementation of the State Financial Police in the sphere of higher education and science, along with the consolidation of Ukrainian universities and the development of public-private partnership should be the formation of a system of commercial educational lending. That must provide the possibility of obtaining a targeted loan on preferential terms for both subjects of state-private partnerships and entrants (students) intending to pay for training in HEIs or to conduct research at the expense of credit funds.

The development of the system of commercial educational lending involves the development of an appropriate educational credit policy by the National Bank of Ukraine together with the Ministry of Education and Science of Ukraine, which should include: popularization of commercial

educational lending (placement of information on the conditions of commercial educational lending on the sites of the Ministry of Education and Science of Ukraine, individual HEIs); provision of interest of second-tier banks in the provision of educational loans (favorable conditions for targeted refinancing of participating banks of the system of commercial educational lending by the National Bank of Ukraine, adoption of resolutions of the National Bank of Ukraine regarding the procedure for granting and basic terms of educational loans).

Therefore, when forming the State financial policy in the field of higher education and science, it is advisable to ensure the implementation of a system of interrelated measures at the macroeconomic level.

The main directions of this policy are the following:

1) Enlargement of domestic HEIs in order to strengthen their position in the Ukrainian and international educational services markets, to promote the development of non-price competition and, as a result, to improve the quality of education and to empower Ukrainian universities to commercialize educational services and research results, in particular, within the framework of public-private partnership.

2) Ensuring the development of public-private partnerships in the field of higher education and science in order to ensure a gradual incomplete transition from state to “commercial” orders, that requires regulatory, financial and personnel support of the public-private partnership mechanism.

3) Promotion of the development of commercial educational crediting in Ukraine with the aim of expanding the financial opportunities of applicants (students) and investors (private partners) in the field of higher education and science in the context of increasing non-price competition between the HEIs.

Consequently, in the conditions of a transformational economy, the higher education system is one of the areas, which reform is necessary to ensure the economic security of Ukraine and competitiveness in the international market. Modern state policy in the field of higher education is aimed at the development of the human capital of Ukraine in the conditions of HEIs increasing autonomy and cooperation of the state bodies and business with the HEIs for the development of each individual and the country as a whole.

At the same time, the achievement of the goals of the development of the system of higher education in Ukraine in difficult socio-economic conditions is impossible without adequate regulatory, personnel and financial state support. Taking this into account, recommendations have

been developed for improving the State financial policy in the field of higher education and science, which provides the implementation of a system of measures at the macroeconomic level that provide: the integration (consolidation) of the HEIs and, as a result, the expansion of their capacity for cooperation with other economic actors; the strengthening of non-price competition between HEIs, which will promote the quality of education and research; the development of public-private partnership, the creation of a favorable investment climate and, thus, reduction of budget expenditures for higher education, increase of their efficiency, reduction of the gap between the system of higher education and the needs of employers; the development of commercial educational lending, which will increase investment opportunities in the field of higher education and science for individuals and juridical persons.

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## Chapter 4

# PRACTICAL ASPECTS MANAGEMENT OF COMPETITIVENESS THE ECONOMIC ENTITIES IN VARIOUS SECTORS OF THE ECONOMY

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### **ATTRACTING TQM METHODOLOGY TO IMPROVE THE COMPETITIVENESS OF THE PROCESSING COMPANIES OF AGRIBUSINESS**

The study of the quality management problem is one of the most pressing problems of modern economic theory. The urgency is conditioned by the needs of the practice, first of all, by the need for a sharp increase in the export potential of enterprises, ensuring the competitiveness of goods on the market both within the state and internationally.

Among the experts in the field of quality management, such authors as E. Deming, J. Juran, A. Feigenbaum, E. Condo, R. Kaplan, D. Norton, J. Harington use the honored authority.

But further research for processing enterprises of the agroindustrial complex requires such problems as: system quality management, the construction of a system of total quality management at export-oriented enterprises, the importance of international quality standards for the activities of export-oriented enterprises.

Before the leaders of the enterprises there is a problem of finding such a quality management system that would be in line with the principles of unity of approaches at different levels of management, the ability to manage quality at all stages of the product life cycle, combining lower costs with product quality.

Interest in the concept of TQM (Total Quality Management) among Ukrainian specialists began to emerge only in the mid-1990s, which

coincided with a certain revival of work on the implementation of ISO 9000 standards.

Thus, unlike in foreign practice, when the use of TQM began before the use of ISO standards, the introduction of ISO standards in Ukraine gave impetus to the study of the concept of TQM.

More than a decade of Ukraine's lagging behind the advanced countries in the issue of implementing quality standards is quite logical, since only now the country began to form objective conditions for the use of this concept.

The complicated, contradictory and extremely intensified European integration processes in Ukraine and the aspiration of individual enterprises to enter the international market independently require constant work on improving the quality of products. The absence of the necessary conditions eliminates the possibility of successful use of the concept of TQM in practice.

The strategy of export-oriented domestic enterprises should be based on the principle that quality is simultaneously the most effective means of meeting the needs of foreign consumers and reducing the cost of production for the enterprise itself.

At the present stage, the economic activity of export-oriented enterprises should ensure the release of products that fully corresponds to the needs of foreign consumers, satisfies the needs of both the individual and the target market group as a whole, takes into account the needs of consumer safety, meets the requirements of current standards and technical specifications of this state, offers the buyer the product at competitive prices of their market and at the same time is economically profitable for the enterprise itself.

Enterprises of Ukraine, as a result of market transformation and liberalization of foreign trade, were in a harsh competitive environment. Current trends of economic development indicate that only powerful multinational companies with high quality goods can

It is important for commodity producers to pay special attention to considering requirements, tools and mechanisms of quality management with an emphasis on the peculiarities of the formation and implementation of the corresponding systems in accordance with the international standard ISO 9004-2000.

Total Quality Management (TQM) is a concept that involves the comprehensive and well-coordinated use of systems and methods of quality management in all spheres of activity from research and development to after-sales service with the participation of management

and employees of all levels, utilizing the rational utilization of technical capabilities of the enterprise.

As a new scientific and practical approach to quality assurance, the modern concept of TQM developed in the early 1980s under the influence of ideas by W. Shuhart, E. Deming, J. Juran, A. Feigenbaum, K. Isikavy, as well as the Japanese experience in using the methodology of CWQC (quality management within the firm in Japan).

The concept was most widely used in industrialized countries such as the United Kingdom, the United States, Germany, Sweden, and Japan. However, for the unity of the ideology, clearly expressed in the name of the concept, in each country it was treated in its own way, based on the peculiarities of its development and quality management work.

So, according to analysts, in the United States and Europe, the main emphasis on TQM was made on the production culture, while in the eastern states it was based on statistical methods and group activities in the field of quality.

The concept of TQM, which was first introduced in Japan, is based on the development, support, continuous improvement of quality to meet the needs of the consumer. However, TQM as a concept of general management was formed by the American scientist A. Feigenbaum in 1950. Modern quality management of products based on a systematic approach is based on the use of statistical methods.

They are the most important component of the comprehensive Quality Management System (TQM), which significantly helps to solve traditional engineering and production problems of the enterprise, facilitates the processing, analysis and use of information, as a means of improving quality, production efficiency and cost reduction.

Foreign scientists have developed various tactical schemes for the TQM approach, regardless of the fact that it has a relatively short development period. In general, total quality management is an effective management practice of foreign companies.

Foreign scientists have developed various tactical schemes for the TQM approach, regardless of the fact that it has a relatively short development period. In general, total quality management is an effective management practice of foreign companies.

There are various fundamental doctrines that define the concept of total quality. Successful foreign companies most often use the approaches of Edward Deming, Joseph Juran, Philip Crosby, Masaaki Imai, Faigenbaum. The main thesis of Deming is based on the assumption that if you raise the quality, then the production efficiency

will automatically increase.

The main role in this approach is given to the management, which needs to develop reliable statistical methods for measuring the quality of products at the enterprise. The program provides for training and retraining of personnel. Deming's model is outlined in 14 principles of achieving competitiveness through quality that can be implemented for agribusiness enterprises [1, p. 35]

1. Improving the quality of products (services) through the introduction of new technologies and resource management in a new way.

2. High quality is key to reducing costs and increasing quality.

3. Quality must be integrated into the technological process. All members of the organization are responsible for the quality, regardless of the technical functions of the employees.

4. Smaller list of suppliers. Never need to choose the supplier of goods on the basis of cheap raw materials. The choice of suppliers should be based on the principles related to the quality of the goods.

5. Quality problems should be eliminated as soon as possible from the very beginning of their occurrence.

6. Prefer training on the job.

7. Managers should be more coaches than owners.

8. Effective teamwork. Employees should be the first to understand the problems in a specific area.

9. Adequate marketing communications.

10. Management without propaganda slogans. Management without populism.

11. Management is carried out using standards that are relevant to a particular business environment.

12. Management through the definition of the purpose of the activity. The formulation is required from 6 to 12 goals, which are the main and the priority.

13. Adequate program of training and education of staff. Training must be inseparable from the production process, especially if applied to the latest technology.

14. Everyone in the organization must be responsible for the process and processes must be separated.

The managers of the enterprise should not ignore the thoughts of the lower level of staff, but act as the first instance. J. Juran notes that poor managerial planning leads to poor quality [2].

The basic thesis is that the errors must be identified and addressed



first and foremost. To do this, we need to use the Pareto analysis technique. The basic principle of this technique is that 80% of what was wrong was 20% dependent on possible causes.

Therefore, the main efforts need to focus on identifying important causes (vital small) that analyze and isolate from the trivial many (trivial many) in the priority series to achieve the desired result of effectiveness through quality. Analysis of the quality of the Pareto method is prioritized and focuses on increasing resources that have an impact on the result.

Juran's approach delineates two dimensions of quality. The first is characterized by quality as the property of a product or service. This includes reliability, lifetime, customer satisfaction. The term "TQM" Juran refers to the second dimension. The second dimension is the strategy, culture and integrity of the organization.

Crosby [3] divides the procedural nature of total quality management into 14 stages, which can be summed up:

- management should ensure the transition to standards, which leads to zero defects;
- the quality is determined in accordance with the standard;
- the problems are cheaper to solve first.

Masaaki Imai's approach [4, p.17] is based on the assumption that 90% of product quality problems are related to the work of the staff. This technique, of course, is connected with the system of successful result.

For example, it's the so-called R-approach or process approach, which differs from Frederick Tayler's R-Approach (Effective Approach). In the R-approach, the management studies the predicted results and separates production for individuals. At R-approach, the leadership motivates employees to improve processes, which gives a better result.

The approach of Faigenbaum [5, p.97] emphasizes the integrity of the whole organization. This determines total control over quality. The whole organization participates in the system process. This is a high collective responsible for quality. According to him, the cost of quality control ranges from 10% to 40% of the annual turnover of the organization.

The meaning of this strategy is to motivate management and measure the cost of quality assurance and determine the profitability of the enterprise.

Export-oriented enterprises of Ukraine, which aspire to improve

quality, face at least four problems:

- 1) the approach to improving the quality of the enterprise as a one-time event;
- 2) resistance to personnel innovation;
- 3) limited understanding of the heads of the structural units of the relationship of quality products with the effective activities of the enterprise;
- 4) the provision of quality improvement status is not a managerial but a statistical measure.

In order to solve the problem of quality improvement, it is necessary to develop a methodological framework for the effective implementation and implementation of TQM. The lack of a proven correlation-regression analysis in the study of the correlation between profitability and TQM causes difficulties in implementing total quality management in the enterprise.

Accordingly, the quality of design is a measure of the level of satisfaction of consumers' needs for products and services. On this basis, standards for new processes and products are developed.

In practice, there are six possible approaches to the TQM model (Table 4.1). All these approaches can work and act if there is a strong motivation for TQM.

The use of international standards is an important factor for the successful operation of enterprises in international markets.

The improvement of the model has many aspects that can be grouped into two categories: quality at the design stage and quality under the conditions of the technological process. To determine the difference between them, use the following definition of quality: "a quality product is one that satisfies consumer expectations."

The transition to the TQM system should take place on the basis of the systematic introduction of modern methods of general management of the enterprise, which include: Investment Management, Project Management, Financial Management, Personnel Management, Knowledge Management. And also include such special approaches as "Just-in-Time", cost engineering (ABC method), Business Process Reengineering.

Improving the efficiency and quality of the quality system should be done by management through the involvement of staff, taking into account its and its professional growth as a factor.

The basic principles of the TQM concept are set out in the ISO 9004-2000 standard, which is a methodological manual on the development

Table 4.1

**Approaches to the implementation of the TQM model**

No.	Approaches to the TQM model	A brief description of approaches to the TQM model
1.	Implementation of TQM elements	This approach began to be used in the early 1980s. In practice, TQM is divided into separate elements such as: quality system, statistical control and quality assessment
2.	The approach of the guiding principles	They use the principles of Deming, Juran and Crosby as the main measure of the identification of organizational management and product quality assessment
3.	Japanese model	The leading companies that offer this approach use Japanese experience. Benchmarking is the best way to study and apply experience - a systematic study of business processes, procedures and results that match the purpose of an organization that is identified as best with its own experience and practice.
4.	The approach of industrial firms	When using this approach, the company collects a company that uses TQM. Benchmarking allows you to set the benefits of a company by adapting the information that it has shared in accordance with the terms of the business.
5.	Hashing planning	This approach is developed by the Japanese firm Bridgestone and successfully implemented in Hylet Packard. This is a single 10-step procedure, which includes successful planning, distribution, execution and monthly monitoring. The key element here is constant implementation, quality improvement, participation and coordination of efforts of the entire team. Developed and implemented specific tasks to improve product quality.
6.	Market approach criterion, Boulder award	In 1988, the US Department of Commerce established the Malcolm Baldrige National Quality Award and developed quality requirements. The award, like the European Quality Award, and the Deming Japanese Prize, have a significant effect on improving organizational practices and increasing the incomes of enterprises that have made changes in their production technology in the industrialized countries to improve their quality in order to receive this award.

and application of quality systems. However, there are certain differences between TQM and the provisions of ISO 9000 series standards. It consists in the fact that total management involves focusing on philosophy, concepts, tools and methodology, involving all employees, continuous improvement of quality.

ISO standards are based on technical systems and procedures, without the involvement of employees, while continuous improvement is optional. The system of total quality management involves process and system approaches. The process approach is that managing processes should be guided by the principles of quality.

We will formulate a methodology for determining the rating of a product and an enterprise in the market, which contains information about their competitiveness and customer satisfaction in the given stages.

Determination of standardized values of indicators of competitiveness and consumer satisfaction by the formula:

$$y_{ij} = \frac{x_{ij} - \min x_{ij}}{\max x_{ij} - \min x_{ij}}, \quad (4.1)$$

Where  $y_{ij}$  - the standardized value of a certain  $i$  indicator of a  $j$  product (enterprise);

$x_{ij}$  the value of a certain  $i$  indicator of a  $j$ -product (enterprise);

$\min(\max) x_{ij}$  - the minimum (maximum) value of the-  $i$  indicator of the  $j$  product (enterprise);

$m$  - total number of indicators;

$n$  - total number of products (enterprises).

The calculation of the partial rating coefficient (rating)  $R_{\gamma}$  for the specified groups of indicators is carried out using the formula of the arithmetic mean of standardized values;

Calculation of the overall rating factor of the product (enterprise) was carried out as the weighted average of partial ratings by groups:

$$R_j = \sum R_{\gamma} \cdot f_{\gamma}, \quad (4.2)$$

where  $f_\gamma$  - the weight of the group of indicators.

We propose a procedure for carrying out a rating assessment of the competitive potential of the industry, based on the method of rating assessment of the financial condition of enterprises.

The main components of this method are:

1. Submission of the output data in the form of a matrix ( $a_{ij}$ ), where the numbers of the indexes are written in the lines ( $i = 1, 2, 3 \dots n$ ), and in the columns the numbers of the enterprises ( $j = 1, 2, 3 \dots m$ );

2. For each indicator there is the maximum value and is entered in the column of the standard reference enterprise ( $m + 1$ );

3. Output indicators of the matrix  $a_{ij}$  are standardized relative to the corresponding indicator of the reference enterprise by the formula:

$$X_{ij} = \frac{a_{ij}}{\max a_{ij}}, \quad (4.3)$$

4. The rating estimation for each analyzed enterprise is calculated by the formula:

$$R_j = \sqrt{(1 - x_{1j})^2 + (1 - x_{2j})^2 + \dots + (1 - x_{nj})^2}, \quad (4.4)$$

where  $R_j$  - rating for  $j$ -th enterprise,  $x_{1j}$ ,  $x_{2j}$ ,  $x_{nj}$  - standardized indexes of  $j$ -th analyzed enterprise;

1. Arranging enterprises in order of decreasing the rating. The highest rating has an enterprise with a minimum value of its rating.

The main advantage of this technique is to take into account all the real achievements of competitors, the application of a multilevel approach, which is very convenient when it is difficult for an expert to identify a leader, a competitor, and the like.

According to the proposed method of comparative rating assessment of the economic potential of the enterprise, consider the following steps:

substantiation of the system of parameters of indicators of competitiveness of enterprises, information gathering and calculation of values of indicators;

- development of a matrix of normative coefficients;
- calculation of integral rating by the method of convolution criteria;
- product rankings by the value of the integral rating indicator, analysis of bottlenecks and identification of reserves.

Consider each of these steps in more detail for use at the processing enterprises of the agro-industrial complex.

In the first stage, a comparative assessment should take into account all important parameters of economic potential and be based not on an arbitrary set of indicators, but on the characteristics of those aspects and characteristics of the goods that are essential for competitiveness.

At the second stage, the calculated values of the indicators, which have different dimension and unit of measurement, need to be brought in the appropriate form. For this purpose, for each indicator, a comparison is made with the conventional reference enterprise, which has the best results for this indicator. The benchmark is the most successful competitor that has achieved the best results in the process of real market competition. This is in line with the practice of market competition, where enterprises try to be better than their competitors in all respects.

To establish objective comparative numerical values of different characteristics, the metric scale of relations is used. For each indicator of positive direction (that is, the higher the value of the indicator, the better the corresponding parameter is evaluated) in the matrix is the maximum value and is taken as the reference. Output indicators are standardized by dividing by the reference value:

$$X_{ij} = \frac{a_{ij}}{\max_j a_{ij}}, \quad (4.5)$$

where  $X_{ij}$  is the standardized  $i$ -th factor (competitiveness),  $i$  is the number of indicators ( $i = 1, 2, 3, \dots, m$ ),  $m$  is the number of indicators,  $j$  is the number of enterprises ( $j = 1, 2, 3, \dots, n$ ),  $n$  - number of enterprises,  $a_{ij}$  - value of  $i$ -th indicator of  $j$ -th enterprise.

In the third stage, for the purpose of obtaining an integral criterion and calculating the rating number, the following special methods are usually used: the method of allocating the main criterion; multiplicative method of convolution of the criteria; additive method of convolution criteria; distance calculation method.

The essence of the method of allocating the main criterion is that the comparison is carried out only by one criterion. The multiplicative method of the convolution of the criteria involves the construction of an

integral criterion in the form of a simple or weighed on the importance of conducting local criteria if they satisfy certain conditions of multiplicity.

The additive method of the convolution of the criteria involves the construction of an integral criterion in the form of a simple or weighted sum of local criteria:

$$R_j = \sum_{i=1}^m K_i X_{ij} , \quad (4.6)$$

where  $R_j$  is the rating number of the  $j$ -th enterprise,  $K_i$  is the weighting factor of the importance of the expertly determined criterion,  $X_{ij}$  is the standardized  $i$ -th factor (competitiveness),  $i$  is the number of indicators ( $i = 1, 2, 3, \dots, m$ )

The method of calculating distances is based on vector-matrix algebra, with the introduction of a special type of metric that characterizes the distance between the objects being analyzed.

Such a metric is used as a generalized criterion, since it describes the generalized distance between the current object and the object under comparison. Usually the distance between some actual object and its ideal representation is considered.

If it is ideal to accept the actual value achieved in a competitive struggle in the most successful competitor, then the value of the integral criterion can be calculated:

$$R_j = \sqrt{\sum_{i=1}^m (1 - X_{ij})^2} , \quad (4.7)$$

where  $R_j$  is the rating number (value of integral criterion) of  $j$ -th enterprise,  $X_{ij}$  is the standardized  $i$ -th index of  $j$ -th enterprise.

Since the value of each indicator for the conditional reference enterprise is taken for 1, all its coordinates are equal to 1,  $R_j$  characterizes the distance (distance) of the enterprise, which is analyzed for the conditional in the multidimensional space.

The rating number can be modified by using expert weighting coefficients, indicators:

$$R_{ij} = \sqrt{\sum_{i=1}^m K_i (1 - X_{ij})^2}, \quad (4.8)$$

where  $R_{ij}$  is the rating number (value of the integral criterion) of the  $i$ -th indicator of the  $j$ -th enterprise,  $K_i$  is the weighting factor of the importance of the criterion, which is determined expertly,  $X_{ij}$  is the standardized  $i$ -th index of  $j$ -th enterprise.

And also the calculation of distance is not from the reference enterprise, but from the origin of coordinates [88, p. 10]:

$$R_j = \sqrt{\sum_{i=1}^m K_i X_{ij}^2}, \quad (4.9)$$

where  $R_j$  is the rating number of the  $j$ -th enterprise,  $K_i$  is the weighting factor of the importance of the expert-defined criterion,  $X_{ij}$  is the standardized  $i$ -th factor of the  $j$ -th enterprise.

In the fourth stage, on the basis of the calculated values of the rating estimation, the enterprises are ranked according to the level of competitiveness. Depending on the chosen method of calculating the rating, the enterprise is organized either by decreasing the  $R_j$  index, or by increasing it.

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**INTEGRATING  
ROLE OF  
MANAGING  
INFORMATION  
SYSTEMS UNDER  
IMPLEMENTATION  
OF PRECISION  
FARMING  
TECHNOLOGIES**

Information and development of communications on the basis of network technologies have become one of the main productive resources at the epoch of post-industrialism, which replaced the previous agrarian and industrial waves of the civilization development.

The most developed third-wave countries sell information and innovation, management, culture, new technologies, software, education, pedagogy, medical and financial services to the world [1]. A few common themes, including the ones below have begun to emerge.

- The service sector prevails in the structure of the economy over industrial and agricultural production.

- Science becomes the main productive force and defines the foundations of public life and state policy.

- Living standards of the population, markets of labor, goods and finance, management systems depend on the level of use of information technologies, the development of appropriate infrastructure.

As a result, the Japanese and American researchers analyzed the role of information in the economic development of post-industrial countries it began to be considered as a specific resource, which does not have most of the characteristics inherent in traditional factors of production [2].

At the same time, under the influence of innovative information processes, traditional sectors of the economy, such as industry and agriculture, experience tremendous changes and move to a qualitatively new, digital level of many manufacturing units.

The value and importance to the economy of blue-collar worker, unionized work, including manual labor decline, and those of professional workers (e.g., scientists, creative-industry professionals, and IT professionals) grow in value and prevalence. Agrarian production is the most conservative industry, and its informatization takes place unevenly, especially in countries that did not attain a level of post-industrialism. However, numerous factors that are characterized by a sufficient degree of uncertainty (climate change, cost growth, soil depletion, high exploitation of natural resources, redistribution of traditional markets, etc.) stimulate this sector to find innovative methods for managing agrarian production with increasing use of information technologies and systems.

Precision farming has the greatest potential, creates a new economic direction and can radically change agribusiness, significantly increase agricultural productivity and reduce the level of environmental, material and other costs for growing crop production. When a new scientific direction is forming, quite often there is no single exact definition of the subject of study, and researchers use several interpretations of the same concept at once. This is the case with the very concept of information, as well as ambiguously interpreted the term precision farming.

For example, from the technological point of view, precision farming is defined as the concept of technology introduction in agriculture based on soil mapping units, the use of accurate remote data – satellite images or drones, as well as the use of technologies for processing these data. From the point of view of management, precision farming is a management strategy in agricultural production, based on modern information technologies to obtain accurate data from various sources of information, for the preparation and adoption of effective solutions for

maximizing profits.

The purpose of implementing precision farming is to determine the decision support system (DSS) for managing the entire economy in order to optimize profits with maximum conservation of resources [3]. At the heart of the scientific concept of precise farming there is an idea of the existence of heterogeneities within a single field, e.i. the field is being considered not as a entire object, but a set of individual sections that have specific characteristics or features. The latest technologies such as global positioning systems GPS, special sensors, aerial photographs and satellite images as well as special programs for agrarian management based on geographic information systems (GIS) are used for their evaluation and detection. Precision agriculture has also been enabled by unmanned aerial vehicles like the DJI Phantom which are relatively inexpensive and can be operated by novice pilots. These agricultural drones can be equipped with hyperspectral or RGB cameras to capture many images of a field that can be processed photogrammetric using methods to create orthofotos and NDVI maps [4].

In some publications precise agriculture is named as the key component of the third wave of modern agricultural revolutions [5]. The first agricultural revolution consisted in increasing of mechanization in agriculture from 1900`s to 1930`s. Each farmer could produce enough amount of products to feed about 26 people during certain time [5]. The 1990`s pushed a “green revolution” towards new methods of genetic modification, what led to the fact that each farmer increased production based on the number of 155 people [5].

It is expected that by 2050 the world population will reach about 9.6 billion while the production of food should actually double from the current level. Thanks to new technological achievements in the agricultural revolution of precise agriculture each farmer will be able to feed 265 people on the same land. Although the first two agricultural revolutions - mechanization and biotechnology – had a serious impact on farmers and the selection of agricultural enterprises, digital agriculture fundamentally transforms every part of the value chain of agribusiness [5].

Precise farming methods were first used in the 1990s in the most developed economies and information spaces – the United States, Canada, Japan and Western Europe. However, thanks to the achieved economic benefits, they began spreading in Asia, South America and even Africa. In Ukraine these methods began to be applied in the late

2000s, and by the end of 2017 it is possible to talk about their mass implementation.

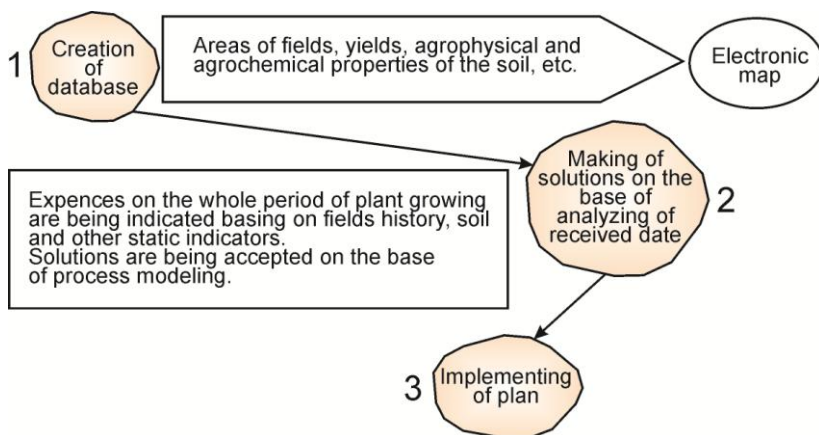
The first companies which were able to make the transition to new technologies of precise agriculture were large enterprises or holdings which invested funds in the purchase of technical and digital equipment and software. At the beginning of the 2000`s there was still no established concept of precise farming, so many algorithms had to be developed independently and for the first time. This formed the set of necessary preparatory stages and directly the steps of introduction of this method of agribusiness. Most enterprises as an initial step carried out a detailed agrochemical analysis of soils studying a sufficient number of samples in agrochemical laboratories [6]. Having the ready results of agrochemical monitoring on each field, fields history of a few years, data on crop yields at different sites, companies started thinking about how to systematize all information and make it accessible to all interested employees of the corporation. Some enterprises came to the idea of creating a so-called geoportal enterprise with its own base of accumulated data [6].

The field outlines of each region of activity, the results of agrochemical analysis, history of fields indicating crop yields over the past few years, data from satellite monitoring were contributed to the base. On the basis of the initial processing of the obtained data, an analysis of the influence of various factors on the process of crop formation, calculations of optimal fertilizer application rates was carried out. In some cases, an analytical center was created where they developed schemes for differentiated fertilization, calculated the potential yields for each field, determined the list of necessary operations to achieve the desired result. During the calculation process there was taken into account information on the influence of weather conditions, technology of cultivating crops, characteristics of soils and so on. On the basis of those calculations, they made mapping, which was then loaded into on-board computers of machinery.

The main stages of the introduction of precise farming technology are shown on Figure 4.1.

The experience gained by the first enterprises is quite valuable, on the basis of which methods and ways of introducing precise farming technologies by many enterprises with a different bank of land, characteristics of soils, climatic conditions and other features are being developed. At the same time, technical and technological capabilities are also changing, progressing. Today, Ukrainian agro enterprises which

actively introduce innovations already have computer maps of crops, spraying, agrochemical analysis of soils, aerophotography data captured with drones, yield maps. Now for many agrarians a tablet or smartphone becomes an indispensable attribute of work either in the office or in the fields. At the same time, agromachinery becomes more intelligent, getting an autopilot, GPS-navigation, automation for precise ground processing on the basis of electronic maps of cultivated fields.



**Figure 4.1 The main stages of the introduction of precision farming technology**

Despite of the existing experience, the percentage of application of precise agriculture systems in agrarian enterprises in Ukraine remains low. There is a number of objective and subjective reasons. Unlike large corporations, small and medium-sized farms can not afford full-featured equipment, do not have skilled staff or simply prefer to continue farming with traditional methods.

On the basis of the conducted analysis we can give a summary of the main factors that prevent the implementation of precision farming systems and formulate recommendations about their change towards transition to innovative methods in plant growing.

At first, the management zone. Traditionally, agronomists consider all their fields as a whole one farm, so they continue to use unified application of fertilizers and other resources for the entire economy or a large array of fields, which leads to a suboptimal result. Such an approach is far from the effectiveness of the application of elements of precise agriculture in farming.

Instead, agronomists need to consider the land / fields in several smaller “management zones”. The zones should be divided according to a system analysis of data: soil sampling requirements (different zones have different soil qualities and potential), field characteristics, topographical data, water supply and requirements for the use of fertilizers, seeds, etc. “Area of management” is a part of the field that reflects a relatively homogeneous combination of factors limiting profitability for a specific culture or crop rotation [7].

Secondly, the data collection. In recent years, technologies of data collection – soil analysis, unmanned aerial vehicles, satellite images, meteorological stations, various controllers and sensors for measuring of properties in soil and plants, etc. are being developed and introduced on the market. These technologies are capable of collecting a large amount of data that can be further analyzed and used for better decision-making. Also many companies develop software applications for information gathering and solutions support. But there are difficulties in data collecting, since enterprises, especially small and medium ones, lack of the technological infrastructure and sufficient expertise to consolidate and analyze data.

Thirdly, there are different standards. More and more developers release new tools, individual software applications and platforms and interoperability quickly becomes an issue. Various available tools and technologies often do not meet the same technology standards, which requires explanation in the final analysis of end-users. The challenge is to transform intelligent stand-alone devices and gateways into holistic, farm-based platforms.

The fourth factor is an availability and quality of Internet connection. Many remote rural settlements and fields do not have a secure Internet connection. This, in turn, prevents attempts of using qualitatively precise farming systems. If network performance and bandwidth speed are not significantly improved, an implementation of digital farming will remain problematic.

Fifth factor is the understanding of bulk data. Digital agriculture is increasing a global approach to data usage, but this technology is useful only when users can “understand” the available information and use it. Progressive farmers, who use modern tools for data collection, have hundreds of thousands of data points on the fields. However it is impossible to monitor and manage each data point and look over it daily/weekly during the whole growing season. The problem is particularly acute in large, long-term agricultural surveys, when there is

a need of monitoring over several years of crop cultivation. Applications that simply provide information on heterogeneous zones or the general state of plant development on the fields are not useful enough as there is a need for more systematic analysis and forecasting tools which can prevent and help agronomists to avoid losses. An analysis of historical data such as yields, weather, soil trends, inputs and so on together with an analysis of real-time factual data can provide an agronomist with powerful tools for reasonable decision-making and risk management.

The sixth factor is teaching. Precise farming provides an implementation of new technologies and tools to improve an efficiency of crop production. For engineers and agronomists, especially in small agricultural companies, an installation and exploitation of the necessary software, the network of sensors for fields, special machinery and other precise farming systems can be very difficult. It must be kept in mind that the error tolerance is minimal in the technical high-tech “smart farming”, and poor management can be catastrophic. For example, if technology of locally-ribbon fertilization with subsequent seeding of corn seeds onto the corresponding lines was launched incorrectly with a significant deviation from the exact line of sowing, that would lead to a negative result. A deep acquaintance of agrarians with the concept of “smart farming” and the tools / devices involved in it is an extremely important prerequisite for its implementation. Lack of knowledge and high-quality support along the way can be dangerous.

Finally – the lack of economic analysis from technologists and agronomists. Deepened economic analysis should complete using of tools or precise farming elements to provide yields with optimal use of resources and high levels of profitability of the field.

The analysis of global trends and experience of implementation of precise farming systems at Ukrainian enterprises as well as the individual factors described above allow us to formulate a basic recommendation which, in case of its implementation, will create a possibility to simplify the processes of management with various software and hardware devices that provide a system of precise farming at the enterprise in general.

For the placement of the primary data, their processing and further finishing for decision-making, it is extremely important to use the enterprise’s only software platform, which would make possible to receive and process data from systems with different software and hardware solutions. For example, data obtained from a GPS-monitoring system of agricultural machinery should be provided not only in the

form of MS Excel tables or be able to export to the software for financial calculations, but also be used in a system that can simulate a particular agricultural technology operation or creation of the production plan of the enterprise itself.

At the same time such a highly specialized platform should contain a well-developed database for general purpose, be flexible, scalable and provide users with sufficient convenient access.

As an example it's logically to consider the online information system Soft.Farm as one of the most advanced at the software market in Ukraine. The system is designed for agrarians and contains many free modules, especially at the stage of collecting and input of all primary information. The registration and management of the system resources by the developers is organized simply through the Internet and immediately you can begin setting up for a specific company [8]. System has already included dictionaries containing wealth of valuable information about all types of soils, fertilizer marks and ZZR, agricultural and energy machinery. All dictionaries can be supplemented with new data relevant to a particular enterprise.

Nowadays system developers have logically expanded its functionality with connecting to GPS-monitoring systems of agricultural machinery of different manufacturers, collecting information on the chemical status of soils and weather data. With a simple set of tools and friendly interface, the system allows to use satellite images and indexes NDVI, to plan works and technique optimally, to adjust the calculation of performed work on the fields and to control fuel using GPS monitoring, to save the results of analysis of soil and create cartograms, to develop task cards for the differential application, to set up an accounting of the land bank and lease agreements on the shared ares of the enterprise, to carry out the automatic generation of the specialized forms of primary documents of inventory accounting of agricultural holdings.

At the next stages of the implementation of the concept of precision agriculture such an information system serves as the integration center for analysis, information processing and decision-making.

Regarding the qualification of staff, it is important to take into account opportunities of teaching for practicing agronomists and other specialists on short training as well as the introduction of new training courses at universities in the frames of higher education reforming and harmonizing relations with the needs of the modern labor market. Such programs are already being implemented in some Ukrainian educational



institutions. In particular, Poltava State Agrarian Academy together with Quart Soft – a software developer for Soft.Farm – have launched a large-scale cooperation project which has the purpose of preparing modern agronomists with the latest information technologies in agriculture since 2016.

In addition, lecturers and company representatives hold regular seminars, trainings for agronomists from agrarian enterprises not only in the region, but also in the nearest regions. The experience was presented in numerous reports at scientific conferences and publications [9]. Forms of work on integrated implementation of precise farming systems and consulting of enterprise representatives are being improved. Work is underway to create the so-called “school of precise agriculture” to which Monsanto representatives in Ukraine, the Smart Farming and others have already expressed their desire to join.

To conclude, using of the achievements of innovative information technologies in all spheres of the agro-industrial complex is complicated and multifaceted. Data collection, processing, management and technology of agricultural activities contribute to increasing of its efficiency, product quality, rational use of plant and fertilizer protection saving energy resources and protecting the environment. This perspective direction of development of agricultural enterprises creates a favorable environment for the effective use of resource potential and the formation of competitiveness. The state needs to promote the implementation of more environmentally-friendly technologies for all players in the agrarian sector, focusing primarily on the needs of medium-sized enterprises and farmers organizing targeted financial support as well as developing advisory services.

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**AUGMENTED REALITY  
AS AN INNOVATIVE  
TECHNOLOGY FOR  
PROVIDING THE  
COMPETITIVENESS OF  
TRAVEL AGENCY**

Augmented reality is the term emerging in the field of information technology, which initially denoted the technology of overlaying virtual information on the out world in real time. However, it soon becomes apparent that such an interpretation of this definition is too narrow. Augmented reality is a reality, where any definite object is “supplemented” by virtual elements, where artificial information is superimposed on the physical world, expanding and changing it with the

help of mobile devices as well as software to them.

Augmented reality – this is a modern technology, which is now in a stage of growth, in recent years, it is alive in the mainstream zone. The high speed of dissemination this technology allows us to assert that in the near future it will be considered dominant and turn into a phenomenon of this century. The social effects of the augmented reality are beginning to appear today, and their scale, according to expert forecasts, will be enormous and surpass the effects of the emergence of a global network Internet.

At the end of last century, the scientific community was surprised at the emergence and rapid spread of the phenomenon of virtualization, which in turn caused the need for appropriate reflection and publication of various scientific works devoted to research of this phenomenon. The problems of increasing the role of computer technology in everyday life, the transfer of many forms social interaction from the real world to created by the Internet the virtual world, were actively debated and analyzed by philosophers, sociologists, political scientists, art historians and culturologists [11].

Authorship of the term “augmented reality” belongs to the researcher of the American corporation Boeing T. Codell, who in 1990 grounded the necessity of expanding conceptual models of relations between the physical and digital worlds, the impossibility of their limitation of the dichotomy “real-virtual”. The scientist suggested using the term “augmented reality” as opposed to the term “virtual reality” in order to differentiate the phenomena of immersion into the virtual environment and the introduction of virtual elements in real life. He also tried to prove that augmented reality and virtual reality are definitions that are not interchangeable, and marked by them the phenomena are completely different [6].

In 1994, scientists P. Milgram and F. Kishino expanded the term “augmented reality” by publishing the article “A Taxonomy of Mixed Reality Visual Displays”. The authors of article describe the space between real and virtual world (calling it a combined reality), in which the added reality is closer to the real (unmodulated) world, and augmented virtuality – to the virtual (fully modeled) world [8].

Well-known scientist N. Jurgenson, analyzing in his scientific works the expansion of technology of augmented reality, argues that it has become a factor of revolutionary changes in social life, and also led to the organic unification of the physical and digital worlds. He believes that the supplemented reality should be considered in the broadest sense

– as a by-product of mixing different modes of existence of a modern people [4].

For the first time about the technology of augmented reality began to speak in beginning of the XXI century, but it is well-known in 2012, after the emergence of smart glasses Google Glass. In this device uses a transparent display that attaches to the head and slightly above the right eye, as well as a camera capable of recording high quality video. Glasses issued on display information about objects with which the user visually contacts. For example, walk around the city in glasses Google Glass, theoretically can see the location of the nearest restaurants, read the menu and reviews, order a table, etc. Interaction with user carried out through voice commands, gestures, and a sound transmission system.

At the beginning of 2015, about the start of development the glasses of augmented reality announced the Microsoft Corporation. Her product called HoloLens is a special hoop that is put on the head with placed in front of her eyes tinted lenses which refract and send to the user's eyes images from side displays. HoloLens works in stand-alone mode and does not require connection to a computer, mobile device, or game console. The device can be managed using gestures, by voice or by pressing the corresponding buttons [7].

Often, in augmented reality is also understood visual provision of information, for example, in museums, where via using special devices (when induction them on an exhibit) can get additional information about the object of the show. Mobile devises that can translate text from picture are also a form of augmented reality. Television uses this technology when broadcasting sports matches, for example in football can show the distance of a free kick with using the overlay on the picture.

Augmented reality is mainly realized through the use of a special marker, which can be placed on virtually any surface. This marker can be used as an illustration, a photo, a logo, but in most cases it is a QR-code. The main advantage of such a code is its easy recognition by the scanner, in particular with the help of a tablet photo camera or smartphone. QR-code consists of three large squares in the corners of the image and many small synchronization squares that allow you to normalize the size of the image.

Now the field of using QR-codes has increased significantly, they began to use in tourism activities. This technology is very popular when creating special services related to tourism, museum, public transport, hotel and restaurant services. The technology of augmented reality is

actively used to provide tourists the background information about the local historical-cultural monuments. Application of QR-codes in projects for equipping tourist objects with information plates (with the drawing of such codes) is explained by the convenience of obtaining a large amount of information about the object of the show in a real urban space, especially when the tourist is directly in front of him.

In a city with similar information infrastructure, a people is like inside within a giant browser that provides the ability to interact with text, pictures, or other information. In this case, the system can itself determine which specific geographic point the user is in, in which direction and at which angle the objects should be scanned. According to location the tourist is provided the information about nearby the objects to visit (hotels, restaurants, shops, public transport stops, etc.). The system not only displays the necessary information, but also allows the user to build on its basis your pedestrian, automobile or other route, as well as remember it.

Ukraine is also trying to keep pace with the times, and technologies of augmented reality are already appearing in large cities of the country. Everything started from Lviv and its system of informational QR-codes, prepared for the final part of the European Football Championship 2012. The activists of the business association “Tourist Movement of Lviv” have placed QR-codes for more than 80 tourist objects of the city. Predominantly, there were buildings in the central part that are important value: museums, hotels, restaurants, as well as objects of historical-cultural heritage. Of course, such codes can never replace live communication with the guide, but they show the tourist their location, as well as provide information about the objects of display that are located in front of him [12].

In our opinion, there are important reasons that contributed to the rapid dissemination of this technology in Ukraine. The most important of them is the poor development of the tourist navigation system in most regions of our country. Therefore, projects on QR-coding are considered by us as: a) part of the process of creation of convenient mobile tourist information infrastructure (independent free-of-charge obtaining useful excursion information); b) a new form of actualization of the historical-cultural heritage for the local population (first of all for the younger generation of townspeople).

It should be noted that in 2012, in preparation for the final part of the European Football Championship, one of the largest domestic mobile operators “MTS Ukraine” together with the resource “Interesting Kiev”

and the service Historypin, launched a project entitled “Augmented reality”, which covered the historical parts of Kyiv, Lviv, Donetsk and Kharkiv. To make a small excursion into the history of the city, need to install a mobile app and start it on your tablet or smartphone. The program will automatically detect the location of the user and invite him to view old photos of the nearest historical-cultural attractions. Moreover, by directing the camera to the object of the show, you can see the archival image over the modern look of the object, while adjusting the transparency of the photo by moving the finger across the screen. On the screen can also be displayed other information associated with the object [5].

Analyzing the situation and taking into account the dimensional aspect of tourism, the application very promising at present is implementation of geographic information systems. Compared to the possibilities of traditional tourism cartography, tourist geographic information systems provide fundamentally new opportunities for mapping dimensional tourist information while preserving and enriching old cartographic techniques. Conventional paper tourist atlases and maps are limited by two dimensions, within which problematically enclosed the diversity of three- or four-dimensional dimensional-temporal objects and phenomena.

Geoinformation system is a software-hardware complex that allows you to combine a model image of a territory with tabular type information. Such a software-hardware complex provides automated collection, processing, analysis, storage, display and dissemination of dimensional-coordinated information.

The main customers of geoinformation systems are industries whose operation is associated with the use of natural resources. The need to develop the first natural-resource geoinformation systems was due to global processes of computerization of science, the emergence of a new level of dimensional-information providing research and the need for a rapid solution of various specific tasks.

The first geoinformation systems were simple geospatial databases that were used to store primary documents, simplify their processing, and compile general reports. In the future, due to the intensive development of computer technology and the growing needs of different classes of users in the work with electronic maps, geoinformation technology has received a powerful boost in development [10].

Note that the structure of the geoinformation system, as a rule, includes four compulsory subsystems:

- data entry – for inputting and / or processing of dimensional data obtained from different sources;
- storage and search – for the prompt receipt of data for the purpose of appropriate analysis, updating and correction;
- processing and analysis – for evaluation of parameters, solution of calculation-analytical tasks;
- providing data in different forms (maps, tables, diagrams, digital terrain models, etc.).

To create a tourist geoinformation system, for example, can use the already existing free software – Google Earth. This system has many tools to apply them as a resource for attracting tourists. First and foremost, this is an interactive map of the territory of the entire planet with a large amount of background information for virtual tours around the world. To do this, in the global Internet network are depicted the aerial and space images of most of the Earth. In some regions these photos have very high quality.

Google Earth automatically downloads the necessary images and other data, stores them in the computer's memory for future using, and the next program launches will be downloaded to only new data, which can save much traffic. To visualize an image in a system is used a three-dimensional model of the entire globe (with altitude above sea level) that is displayed on the screen using DirectX or OpenGL interfaces. It is in three-dimensional landscapes of the Earth's surface is that the main advantage of this software. The user can move freely to any corner of the planet, independently managing the “virtual camera” [2].

Almost all of the land in Google Earth is covered with images taken from DigitalGlobe Company, with an extension of 15 meters per pixel. There are separate areas of the surface (the capital and some large cities of different countries), with a more detailed expansion. Also, the system offers a huge amount of additional data that can be connected at the user's request. For example, the names of settlements, reservoirs, airports, stations, roads, and other infrastructure.

In addition, for many cities in the world in Google Earth has more detailed information: names of the street, shops, refueling, hotels, restaurants. There is in the program a geolocation layer (synchronized through a global network Internet with a corresponding database), which displays with a spatial reference the links to articles from Wikipedia. Users can create their own labels and overlay their images over satellite (these may be maps or photos from other sources). These tags can be

shared with other users through forum the Google Earth Community.

Now, geoinformation systems are often used in tourist projecting, as well as during the exploitation of tourist resources and management the objects of tourism industry. Geoinformation systems allow establishing the efficiency of use and monitoring the tourist resources, control anthropogenic recreational load, assess the suitability, uniqueness and attractiveness of the territory for implementation of tourism activities [10].

In this regard, information for a tourist geoinformation system can be characterized as a set of data that is intended to solving the tasks of management of tourist complex the region or the country as a whole. Such data under the terms of access can be divided into open (publicly available), intended for a wide range of users, and closed (specialized), intended for employees of government institutions and scientists for the purpose of forecasting, evaluating research and managing the objects of tourism industry.

Large-scale implementation of geoinformation technologies allows timely make managerial decisions and creating arrays of reference, cognitive and scientific information for travelers, residents of the region and state structures.

With the help of tourist geoinformation systems can:

- add and modify various cartographic objects;
- update information about tourist objects;
- edit properties of objects (colors, borders, scale, sizes);
- to connect objects on a map with records in the database;
- conduct cardometric measurements, scale map;
- work with additional materials (topographic maps, aerial and space photographs, other cartographic and schematic materials);
- to receive analytical information for one or another area, region, tourist object;
- to provide information interaction with other organizations;
- to provide results research to the institutions of public administration, the public, potential investors.

Given the advantages and possibility of tourist geoinformation systems, can conclude that they are a necessary means of information provision of tourism development. Unfortunately, for the present geoinformation technologies are not sufficiently significant tools in the domestic tourism business, while abroad they are an integral part of major tourist and socio-cultural projects.

As already noted, the augmented reality is a technology of



combining real and virtual worlds when digital information in the form of text, image, video, and sound supplements objects and phenomena of the physical world. The current era of informatization has definitely provoked significant changes in tourism activity. Everyone people can get unforgettable impressions if in his trip includes technology of augmented reality. Tourists with help GPS and compass can get on the screen of their mobile devices detailed information about their location, as well as information about the surrounding area. In the augmented reality there is a great opportunity to demonstrate large objects in the city's space, for example, buildings, constructions, premises, etc.

A striking example of use the augmented reality technologies in foreign countries is amusement and recreation park the Cedar Point, located in state Ohio, USA (has on its territory a record number of attractions in the world). The specialists of this institution, in collaboration with Holovis Company will developed a mobile application with elements the augmented reality of The Battle for Cedar Point, which has the following scenario. Guests join to one of the magical clans and spend time in an exciting game, traveling around the park, performing tasks, scanning the necessary attributes, answering questions and gaining points for it. The graphics of the mobile application are very impressive, users are happy to report to their friends, relatives and acquaintances about their achievements through social networks, and in the evening all winners of the game are honored during an enchanting show [1].

Representatives of Holovis Company which is recognized authority in the field of virtual and augmented reality technologies, note that such games contribute to increased visitor loyalty and increased attendance rates. If the script is interesting and thought out, is constantly updated and supplemented, then the guests return to the park again to rejoice in their favorite game. They also bring with other people who have learned about Cedar Point through reading in the social networking publications, and also wanted to take part in the fun.

Another sphere of the use of augmented reality technologies is the modeling and reproduction the objects of historical-cultural heritage. The Pilgrim XXI Company, a well-known developer of augmented reality devices for the global tourist market, has created a special mobile application for a tablet or smartphone that allows tourists not only to find out what historical objects looked like in the past, but also to see those that have not been preserved to this day.

Now, we can still visit medieval castles and fortresses that are more

or less preserved, but from many ancient buildings there are stay only some fragments: a pair of columns or a part of the wall. Tourists often feel frustrated, seeing the ruins that preserved on the place of the legendary monuments of history and culture. On the planet has forever lost a large number of architectural values, their physical recovery is impossible. To imagine now how they “fit” in the landscape is very difficult, but with the help of modern devices of augmented reality this can be done.

In 2015 Pilgrim XXI Company has developed software that allows tourists to see the “restored” castle of the Livonian Order in the Latvian city of Ludza. In order to make a small excursion into the history of this castle, need to install and start the corresponding mobile application on your device. By placing a camera, for example, on a tower or gate, the user can see their archival image over the modern look of the object. Additionally, in the application are built detailed guides with terrain maps and walkways, with stories about the nearest attractions and tourist infrastructure. It helps to plan your future trips, as well as decide where to eat or stay overnight.

Tourists with the help of a mobile application can see powerful walls and brick towers of the castle, walk through the citadel of the courtyard with accompanied by an audio-musical tour. Software developers promise that soon it will be possible to travel in different historical epochs: see the beginning of build the citadel at the end of the XIV century, taking the fortress with the troops of the Moscow Tsar Ivan the Terrible, or arrival in the castle of suite the Polish king Stefan Batory. In order to maximize the reliability of the virtual reconstruction of the medieval castle, the company-producer was involved as consultants of experts the local museum of local lore, as well as Latvian and German historians [9].

In the modern tourist market there are all prerequisites for the active development of technology augmented reality. This is mainly due to an increase the share of tablets and smartphones among tourists, as well as an increase the performance of these devices. This technology is constantly evolving and upgrading, appear new generations of hardware devices, such as smart glasses, touch less sensory controllers. The future of augmented reality, of course, is the projects that allow users to independently form content and create their own designations in mobile applications.

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**INNOVATIVE MODELS  
OF BANKING ACTIVITY  
AS A FACTOR OF  
COMPETITIVENESS**

The globalization of the economy, which has intensified in recent years, has also affected banking activities in the direction of diversifying operations and services and improving their qualitative parameters. Modern information and communication technologies radically change the nature of the activities of financial and credit institutions, the ways of their communication with customers and marketing channels, the ways of the sale of banking services. All this is a reflection of the innovation process that is constantly taking place in banks and allows them to differentiate in the financial market in conditions of severe competition and dynamic macroeconomic situation in order to increase the cost of business.

Innovative strategies of banks are implemented in different from traditional conditions, which is explained by the specifics of their activities as financial intermediaries – high social responsibility and significantly increased risk, which accompanies their activities, and that they function as part of the banking system of a particular country. The analysis of factors influencing the innovation process in banking institutions is quite relevant both from a theoretical and a practical point of view, as it allows to increase the validity of the choice and effectiveness of the implementation of innovative strategies of financial institutions.

The concept of “innovation” (innovation) contemporary economic science treats as “the final result of innovation, which has found embodiment as a new or improved product introduced in the market, a new or improved technological process, which was used in practice, or in a new approach to social services” [1]. It’s about creating a banking product that has more attractive consumer properties than previously proposed, or a qualitatively new product that can satisfy the previously unrelated needs of its potential buyer, or the use of more advanced banking product creation technology.

Innovations are inherent in such properties as novelty, satisfaction of market demand, commercial realizability. If the bank independently develops a product to meet customer needs and has no analogues on the market, or a product is already on the list of bank services and is offered

on the market, but it is planned to reach it on new markets, or it is implemented by the bank on the basis of market analysis and assessment the efficiency of an analogue already existing on the product market, then the latter may correspond to the essence of the innovative banking product.

The concept of “innovation” can be applied to all innovations in all spheres of functioning of the bank, which has a certain positive economic or strategic effect, an example of which can be considered an increase of the customer base of the bank, increase in the volume of the loan portfolio, increase market share, reducing the cost of conducting any kind operations, etc., or create conditions for the aforementioned [2]. The innovation process, that is, the process associated with the creation, development and dissemination of innovations, covers all aspects of the bank’s activities: from conception or idea development to its practical implementation.

The development of the financial market prompts an increase in the level of literacy of consumers, and, accordingly, their requirements for banking services, so the presence of a round-the-clock service area in bank branches has become a common practice. The breakthrough in banking technologies of the last decade and the key innovation of the coming decade will be Internet banking, which today is offered to customers by most banks. The rapid development of remote access to its account and the implementation of operations on it contributes to the growth of Ukrainian Internet users.

Unlike Western countries, POS-terminals in the trading networks did not lead to a global revolution in the Ukrainian non-cash area. However, today’s 5% non-cash transactions with payment cards still force bankers to believe in strengthening this trend in the next five years. In the future, POS-terminals will be installed by traders themselves, as payment will be made for non-plastic cards, and information from NFC chips embedded in the phone. Meanwhile, self-service terminals that appeared a few years ago are gaining in popularity both in and out of the banking branches. The list of available transactions is expanding from card transactions and transfer of funds to repayment of creditors in case of insufficient funds available.

In today’s conditions, sustained economic development depends to a greater extent not on resource opportunities that are limited, but on innovation as a society as a whole and its individual elements. Thanks to innovations, science has become a direct productive force, and knowledge in the form of intangible assets is the main capital of

economic development. Speaking about innovation in the banking sector, it should be borne in mind that, unlike manufacturing companies, banks by their very nature are rather conservative organizations.

The main innovators in the financial sector in Europe are small financial organizations, and in Ukraine, the banks whose goal is to switch to personalized customer service with an expanded spectrum of operations and services, including lending. Many innovative banks use modern technologies oriented at the younger generation who are prone to new media projects. That is why, with the spread of technologies, Internet space, many advanced financial institutions have not only an official website, which clearly and informatively speaks of services and products, but also its own page in social networks, with which the bank seeks to become closer and more understandable for clients. With the development of the Ukrainian financial market, in particular the banking sector, the level of literacy of consumers and their requirements for banking services is also growing. Therefore, today, the presence of a 24-hour service area in financial institutions is more likely to be a norm than an exception. However, several years ago, the opportunity to independently carry out an operation or withdraw cash at any time of day in a separate zone of the bank was almost impossible. With the help of “Zone 24”, the client can independently manage their accounts, receive a consultation from a call center specialist, leave an application for receiving a service, and register for service at any branch of the bank. This direction will continue to be further improved [3, p. 54].

It is possible to identify a number of reasons that necessitate the introduction of innovations in banking, in particular:

- ensuring profitability of the bank in the long run;
- increase of lending volumes, and consequently the level of trust in the bank, due to the creation of a positive image and reputation;
- increasing operational efficiency, which in modern conditions requires the implementation of process innovations, which helps to reduce the cost of performing credit, deposit, currency and other operations, while improving the quality of service;
- the ability of a banking institution to generate new revenue streams as a result of the introduction of innovative products in the field of crediting and investing, high quality customer service, provided by the implementation of innovative solutions that the bank allocates qualitatively among its competitors;
- compliance with the requirements of state regulation of banking activities aimed at ensuring a stable and reliable functioning of the

banking system by controlling the risks borne by commercial banks as financial and credit intermediaries;

- the desire of financial and credit institutions to create and maintain the image of a modern dynamic institution that is sensitive to changes in the needs of clients, is interested in solving their financial problems, provides affordable and comfortable servicing of existing credit and deposit operations;

- significant changes in the structure and nature of the needs of consumers of financial services, which occur in recent decades [4, p. 29].

Therefore, for the further definition of the directions of development of innovations in banking activities, it is appropriate to determine the express essence of the concept of “innovation”, since the interpretation of this category does not have an unambiguous approach, we present the definitions existing in the studies (Table 4.2).

The processes of globalization of the world economy can not bypass Ukraine, especially given the openness of the national economy. As the reality proved, the banking system of Ukraine is one of the first to experience the acceleration of integration through the expansion of its foreign capital presence. Consideration of the latest trends in the development of the world banking industry should be considered as a determining factor in shaping the development strategy of the domestic banking system, which will enable the use of all mechanisms of dynamic economic growth. In the near future, globalization will determine the state of the global financial system, so an analysis of the current trends in the international capital movement, primarily banking, creates the basis for shaping the prospects for Ukraine’s integration into international financial space and the credit market in particular.

It should be borne in mind that in recent years, the world’s banking industry in developed countries has undergone significant changes that have affected the efficiency and competitiveness of the banking sector. Of great importance is the fact that in the world financial sector over the past two decades, the process of deregulation has taken place, geographic and economic constraints have been removed, which has led to more active mergers and acquisitions of banks. This leads to an increase in the concentration of bank capital, and, consequently, the cost of the bank, the expansion of the horizons of lending.

Influence of globalization processes on national banking systems manifests itself at two levels - at the macro level due to changes in the activities of central banks and at the micro level – through the

restructuring and transformation of commercial banks. At the macro level, such changes predetermine the evolution of the goals and objectives of the central banks, adjusting monetary policy and mechanisms for its implementation, reforming banking supervision. At the micro level, the impact of globalization manifests itself in the restructuring of national banking systems through the activation of mergers, acquisitions and acquisitions of banks, concentration of bank capital, the introduction of global innovative technologies, the emergence of new banking services, such as distance banking and online lending.

*Table 4.2*

**Modern approaches to the definition of the term “banking innovation”**

<b>Author</b>	<b>Definition</b>
S. B. Yegoricheva	The result of the bank’s activities aimed at obtaining additional income in the process of creation of favorable conditions for the formation and allocation of resource potential through innovations that help clients to make a profit
V. O. Tkachuk	The final result of the process of modernization of all sides of the bank’s activity is to improve banking services, business processes, service, organization, management and marketing in order to achieve competitive advantages in the market
Ya. M. Kryvych	The final result of the bank’s innovation activity, received by the bank in the form of a new or improved banking product or services implemented in practical activities.
I. T. Balabanov	Is Part Of Financial Innovation; realized in the form of a new banking product or transaction, the final result of innovation activity
V. S. Vykulov	Creation of a banking product with more attractive consumer properties in comparison with the previously proposed, or qualitatively new product, capable of satisfying previously untapped needs of its potential buyer, or the use of more advanced technology for the creation of the same banking product
O. Merenkova	Innovations in banking, characterized by a higher technological level and new consumer qualities

*Source: [3, p. 54; 5, p. 46; 6, p. 108-109; 7, p. 25-26; 8, p. 76; 9, p. 187]*



Globalization is accompanied by deregulation of banking activity and the liberalization of financial markets. At the same time, the institutional boundaries between the various types of banking and financial activity are eliminated: commercial, credit, investment, insurance, as a result of a substantial change in the nature and form of competition in financial markets. Banks are compelled to compete simultaneously in many segments of the financial market, not only with each other but also with other financial institutions - insurance and financial companies, credit unions and investment funds, etc., and in the conditions of liberalization – not only with residents , but also with non-residents.

Liberalization, on the one hand, creates conditions for the development of a foreign branch network of banks and the formation of international banking business, which, of course, strengthens the competitive struggle in the field of lending, but, on the other hand, simultaneously activates the consolidation of bank capital and gives access to the provision of consortium loans.

The process of financial globalization and the formation of the “world banking industry”, according to some economists [10], contribute to the standardization of national banking systems and the emergence of a single, dominant model of the bank. Thus, a French banker, A. de Carmoia, believes that such a model will be a bank that focuses solely on maximizing shareholder income or a bank-dividend [11]. Such banks appeared in the United States in the 1980s, in the United Kingdom in the 1990s after the restructuring of the banking system, and their main strategic task was to seize the most profitable segments of the banking market. Priority tasks include careful control of costs and profitability of operations, the establishment of extremely accurate tariffs for services, transparency of accounting reporting, optimization of bank sizes during the concentration process. All this allows to expect in the long run a high level of return on equity (up to 15-20%).

However, such views are not shared by all scientists. Thus, in particular, Plioon D. considers the A. de Carmoia concept to be insufficiently substantiated, indicating the lack of proof of the thesis of optimizing the size of the bank on the basis of the concentration process, the level of profitability and the inevitability of dominance in the future of such a bank model [10]. As J. Plion rightly points out, the classical position of economic theory that concentration provides companies with dominant positions in the market and economies of scale, is not

applicable to banks because of the specifics of their activities. The rapid process of formation of megabanks in recent decades creates only an illusion of optimizing the size of banks.

Modern studies have shown that the dominant positions of the bank in the market are determined not so much by its size and number of competitors, as an opportunity for free access to and exit from the market. In addition, the principle of economies of scale can not be extended to all types of banking activities, and mainly to credit and deposit activities, since many banking services and products are not subject to cost-benefit analysis. Banks can increase their profitability by expanding the base of client-borrowers and diversifying their credit and deposit activities more efficiently than by increasing their size. This is evidenced, for example, by the successful work and high profitability of many medium-sized banks in Germany and France, therefore, it is unlikely to wait for the disappearance of medium-sized banks in the future.

Practice gives a lot of evidence that the size of the bank and its profitability are not as rigid as it is sometimes thought. Therefore, in the structure of the banking sector, banks of different sizes will continue to be present. But it is also evident that globalization will accelerate the process of entry of medium-sized banks into the sphere of influence of large banking groups, which become the main structural elements of the banking sector.

In order to maintain the leading position in the banking market, international banking institutions need at least a capital of \$ 30 billion. and assets of 300 billion dollars. In the world, about 80% of bank capital and assets respectively belong to 12 largest banks [12]. Already in France, seven major banking groups are dominated by Banque Nationale de Paris, Credit agricole (including Banque Indosuez), Compagnie financiire de credit industriel et commercial, Compagnie financiire de Paribas, Credit commercial de France, Credit Lyonnais, Société generale. The share of these groups in the total balance of credit institutions of the country in early 2015 reached 56.4%.

The institutional structure of modern banking systems is multifaceted and it is premature to talk about the dominance of any model of a bank or other monetary institution, but identifying general tendencies and directions of development caused by the influence of globalization processes is absolutely legitimate. Indeed, in some countries, banks with public capital and regional banks controlled by local authorities (Germany) play a significant role; in others (the United States, Great

Britain, France), co-operative banks and mutual savings banks. In Germany, about 50% of the market for loans and deposits accounts for the share of savings banks, while the share of classic commercial banks does not exceed 25%.

At the same time, the structure of the banking sector is constantly changing, but the direction of change in different countries is different. Thus, in some countries, the tendency to reduce the scope of co-operative banks and mutual savings banks is dominant. In particular, housing construction cooperatives in the UK since 1997 began to change their status and share. In France, cooperative banks and mutual savings banks take control of commercial banks, resulting in the formation of mixed banking groups. Diversification of banking institutions will continue in the future, as there will be such preconditions as the variety of customer requests, the unprofitableness of some services for commercial banks, etc. [13].

Consequently, globalization creates a tendency to level the diversity of monetary institutions, making a high-yielding only transnational banking business. A dangerous manifestation of this tendency is that a reduction in the degree of diversification of institutions in the banking sector may complicate the leakage and, in particular, out of the financial crises of national banking systems. The proof of the sustainability of the downward trend is the fact that banking legislation in most countries with the traditional "western" model of banking business is set in contrast to the differentiation of types of credit and financial institutions depending on their functions and the universalization of their activities.

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## Chapter 5

# DEVELOPMENT OF STRATEGIES TO ENSURE EFFECTIVE MANAGEMENT OF COMPETITIVENESS THE ECONOMIC ENTITIES

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## DIRECTIONS FOR IMPROVEMENT THE COMPETITIVENESS OF INDUSTRIAL ENTITIES IN UKRAINE

The current state of the Ukrainian economy requires the creation of the necessary conditions for ensuring the growth of competitiveness in all its spheres, in particular, industrial production. In connection with this, there is an urgent need for an effective assessment of the competitiveness level of the industrial sector of Ukraine's economy, since it plays a key role in the national economy, and its performance indicators are a key factor in socio-economic development. Therefore, a deeper understanding of the structure and trends of the industrial sector development is important, as this sector has a tremendous impact on the Ukrainian economy and its international position.

The national importance of solving the problem of increasing the competitiveness of industrial subjects of entrepreneurship and its inadequate study in Ukraine led to the choice of the topic of research and determine its relevance.

Over the past years, the industrial sector of Ukraine has reduced output and employment, degraded technological, production and organizational structures, and drastically reduced the level of competitiveness of domestic industry, both at the cross-sectoral level and globally. Such a process according to UNIDO's criteria is called deindustrialization, which even the developed countries of the West suffer from. As a result, the search for new models of economic growth,

capable of ensuring the output of national and integrated economies to a qualitatively higher level of socioeconomic efficiency, is intensified. It is up to these new concepts of economic development to include the concept of neo-industrialization. Thus, we are faced with the task of finding out the main causes and factors that have led to neo-industrialization and substantiate the key determinants of increasing the competitiveness of Ukrainian industrial enterprises, and, at the same time, building up the entire national economy.

Today Ukraine has developed a model of export-oriented adaptive industrial development, characterized by a predominance of poorly diversified low-tech production and encourages the country to adapt to the needs of the world market within the limits of existing internal capabilities and current competitive advantages. The effectiveness of such a model is extremely low.

To level the influence of the negative factors on the industrial sector of the economy can be by means of methods of intensification and modernization of industrial production. Intensification is a multifaceted process of formation of an intensive type of development through integrated mechanization and automation of production, its chemicalization and electrification, the introduction of energy, water and resource saving technologies and biotechnologies, improving the organization of labor and material stimulation, deepening the specialization of production and achieving its rational concentration [9, p. 217].

Beginning with the global one, we can say that there are two directions of intensification of industry – external and internal. In order to start an external path, it is necessary first of all to pay attention to the state of the internal market. An increase in the level of production intensification, albeit due to scientific and technological progress, but is carried out with the attraction of additional resources. The key drivers of the renewal of Ukraine's industrial potential should be its competitive advantages:

- a strong raw material base;
- favorable geographic position;
- unrealized potential of domestic demand for industrial products [2, p. 101].

Since the industrial sector of the economy plays a key role in the Ukrainian economy and its performance is a leading factor in socio-economic development, the most important task of increasing the competitiveness of the industrial sector is the formation of modern

mechanisms of industrial policy in the conditions of neo-industrialization. Industrial policy is a policy of state participation in the national economy, aimed at changing its structure through a set of state measures for the development of the industrial power of the state [8, p. 133].

With the help of effective industrial policy in Ukraine, it is possible to modernize the structure of industry on the basis of increasing the share of production of high-tech goods with a high quality, increasing their exports, developing the domestic market, ensuring the inflow of investments in the industrial sector of the economy, increasing energy efficiency of production. The content of industrial policy is related to the definition of those sub-sectors of industry that are capable of providing modernization of the entire economy, while influencing positive structural changes in the development of the domestic market. The task of industrial policy is to form, support and increase the level of competitiveness of industrial enterprises and structural and technological modernization of the industrial complex, the development of advanced technological equipment for the leading sectors of industry. The implementation of regulated industrial policy as a symbiosis of state and market functions should be guided by:

- development of domestic production;
- transition to high-tech production;
- creation of globally competitive corporate leaders;
- sectoral programs for the development of industry;
- competition policy;
- protection of the domestic market against unfair competition.

Analyzing the experience of the highly developed countries of the world, one can see that the intensification of deindustrialization has led to a permanent crisis and the stagnation of their economies. This led their governments to change their attitude to the industrial component of the economy, recognizing it as the key driver for sustainable development.

The USA has taken a course on modernization of industrial production on the basis of advanced development of “advanced” high-tech manufacturing industry (advanced manufacturing). In addition, the US government intends to stimulate (primarily through taxes) the return to the country of previously withdrawn production (re-shoring).

The European Union countries, in their strategy for smart, sustainable and inclusive growth, plan to increase the share of industry to 20% of GDP by 2020 and give it a key role in the development of the

EU economy by diversifying production, increasing its energy and resource efficiency [4]. That is, the European policy of neo-industrialization is aimed at accelerating the development of the high-tech sector and the green economy's productions to ensure both high productivity and an increase in the value added generated within the European Union by supporting the creation of productive capacities within the national jurisdictions of the EU Member States. It is expected that this will have a positive impact on related areas of the economy, in particular, scientific and technological progress and innovation, since the receipt of new technologies and products in the EU and the USA is directly linked with the deepening of scientific research [5, p. 50-52].

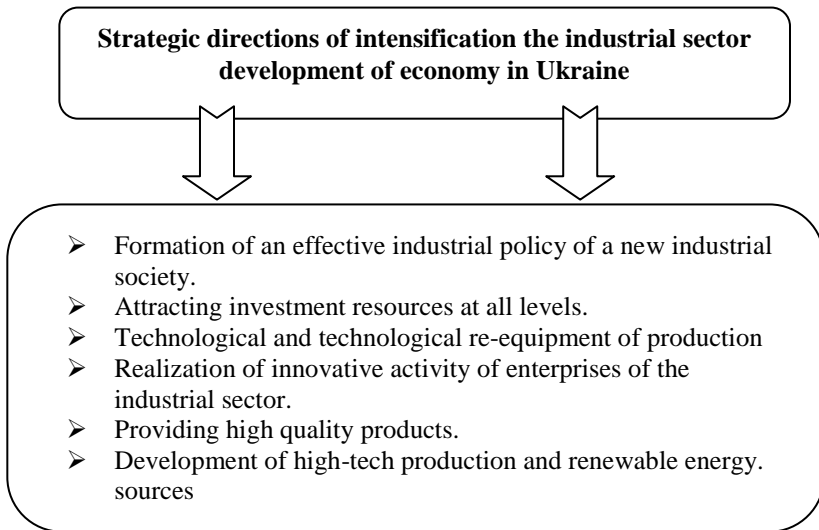
China, which, like Ukraine, had difficulty moving from a planned economy to a market economy, was moving in the direction opposite to us, and for the quarter century it has become the newest industrial leader of the world. China's effective industrial policy has provided it with technological leadership, financial capabilities and, as a consequence of domination in fast-growing industrial sectors of the economy, in particular in the production of renewable energy. An indication of the great achievements of the Chinese economy was that, according to some basic indicators, China is approaching the level of the United States and Japan, and for some even exceeds them. Today, China is among the top three countries in the world that produces the largest amount of electricity and steel. The report, published by the Institute for Energy Economics and Financial Analysis (IEEFA) for 2018, states that China's total investment in clean energy projects totaled more than \$ 44 billion. USA [1]. Economic reforms in the mechanisms of regulation and modernization of the Chinese economy were called "the Chinese economic miracle."

After examining the practice of highly developed countries in implementing economic reforms, in particular effective state policy in the field of industry, we note that they have taken a course towards intensification and modernization by introducing the concept of neo-industrialization.

The main strategic directions of intensification of industrial production, which can be proposed for Ukraine, are shown in Figure 5.1.

Modern scholars in the field of macroeconomics use the institutional and structural approach to distinguish the determinants of increasing the competitiveness of the industrial sector of the economy [7, p. 36]. Thus, the key determinants of the reconstruction of the industrial sector of Ukraine's economy in the long run include:





**Figure 5.1 Main directions of intensification of industrial  
development in Ukraine**

*Source: developed by the authors*

- Institutional and political determinants. Relevant to changes in the system of relations of ownership, the political course of the state, and so on.
- Organizational and managerial determinants. Structure of executive power, managerial decisions, model of economic policy of the state, control of the control of oligarchic business groups over large state-owned companies, reduction of corruption, public control.
- Foreign economic determinants. Reduction of the import of raw materials, on the other hand, production and sales on the foreign market of high-tech products with a high share of airborne vehicles, liberalization of foreign economic activity, expansion of trade with the EU.
- Structural and production determinants. The transition from raw-extractive industrial production to production of products with an innovative component, a policy of diversification.
- Financial and investment determinants. Attraction of foreign investments, restructuring of public debt, reduction of the shadow economy, liquidation of offshore withdrawal schemes from the country, rehabilitation of the banking system.

- Innovative and technological determinants. Reforming the Ukrainian system of education and science, adopting the experience of innovative management by industrial enterprises from the West, changing outdated techniques and technologies into automated and robotic ones.
- Social determinants. The growing confidence of the Ukrainian population in central government and financial institutions, the conviction of the Ukrainian population to keep their savings in banks and insurance companies, and not in cash, the elimination of such a social phenomenon as “nepotism” [5, c. 53-67].

The complex of such determinants will ensure not only an increase in the competitiveness of industry in the context of the sectoral structure of the country’s economy, but will also significantly strengthen the position of domestic industrial production in the international arena.

On the basis of the proposed strategic directions of intensification, modernization of industrial production and determining determinants of increasing the competitiveness of the industrial sector of the Ukrainian economy, it is necessary to identify reserves for improving the quality of activity indicators, to formulate programs for their implementation, and to evaluate the economic effect obtained.

The starting point for raising the level of competitiveness of industrial enterprises is the development of a strategy for such an increase, taking into account all aspects of promotion and counteraction, i.e. the formation of a program for improving competitiveness (PIC).

Under the program of increasing competitiveness it is understood to understand in a certain way an organized set of works aimed at solving the problem of increasing the competitiveness of products and (or) enterprises, the implementation of which is limited in time, as well as the consumption of specific financial, material and labor resources [6, p. 220].

Domestic and foreign specialists develop and implement a large number of competitiveness programs, each of which is, as a rule, a unique set of measures and procedures adapted to the conditions of the activity of a specific economic entity. This is due to the diversity, complexity and multidimensionality of the problems and goals that face the industrial entities, as well as the differences in the external environment in which they have to act. Therefore, the elaboration of a universal program for increasing the competitiveness of the entire industrial sector of the Ukrainian economy is a rather difficult task.

The PIC of the industrial sector of the economy is a strategic plan,

which consists of a series of stages. Successful implementation of the program for increasing competitiveness is assessed on the basis of the set of performance criteria set at each stage. Classically, economists distinguish three main stages of the development of the program [3].

Stage 1. Survey: selecting the optimal approach for defining the goals of the program; defining tasks within the framework of the program; defining the directions of action covered by the program; development of the project organizational structure; drawing up a schedule-schedule of the program.

Stage 2. Analysis of informing all participants of the program, data collection, situation description, baseline coordination, analysis of possible tasks, development of the concept (generalized), development of detailed programs, creation of target groups according to the tasks; familiarization with the schedule-schedule; drawing up a report on the expected results.

Stage 3. Implementation: informing all participants; establishment of mechanisms for monitoring the implementation of the program; implementation of necessary measures; receiving results; control and correction (if necessary); further support of performance indicators at the achieved level.

However, in practice, the number of stages of development and implementation of the control panel is significantly increasing.

The first and second stage – lay the foundation for the process of developing and implementing a program for improving the competitiveness of the industrial sector of the economy. Competitiveness assessment results are used to determine the objectives of the control panel. The objectives of increasing competitiveness are formulated in such a way that their achievement would allow industrial enterprises to eliminate their weaknesses identified during the diagnosis. Such goals should be concrete and measurable, coordinated and interconnected, achievable, timed, and should take into account the impact on the competitive environment of the industrial sector of the economy.

In the third stage, an effective strategic set-up is being developed as a tool for improving competitiveness. Strategic set is a multilevel structure, each of the presented levels of the strategic sector of the industrial sector provides an alternative group of strategies that differ in their direction and the system of identified measures and methods to achieve the objectives of increasing competitiveness within a specific level.

The fourth stage is determined by drawing up an expanded plan for increasing competitiveness. The establishment of the organizational structure of the PIC should provide both a general centralized control over the development and implementation of the program, as well as operational management of the work of the executives with timely adjustment of their activities at all stages. At this stage, a progressive decomposition of the program implementation process is carried out, that is, the distinct parts of the process are clearly distinguished and linked. The establishment of methods and the choice of tools for measuring the results achieved involve the selection of adequate tools for assessing the level of implementation of the goals set in the program. These methods and indicators should clearly and coherently characterize the success of the program, requiring a moderate effort in collecting primary data. Since the main goal of the program is to improve competitiveness, the indicators and methods for assessing the competitiveness of the industrial sector are important among such methods.

At the fifth stage, the developed strategy for increasing competitiveness is being implemented by the Ministry of Economic Development and Trade at the macro level or the Department of Economics on the meso-level.

During the final sixth stage, the implementation of the strategy for increasing competitiveness is monitored, if necessary, individual actions are adjusted. At the end of the strategy implementation, an assessment of the achieved results and the effectiveness of the strategy is conducted. The obtained performance and efficiency data are used by the enterprise during the development of the next program for improving competitiveness.

Creating and implementing a program for improving competitiveness is one of the most important tools for the comprehensive improvement of industrial enterprises. Based on the extent to which the program has been thoroughly developed and consistently implemented, it is possible to conclude on the possibilities to achieve high results and to stimulate the increase of the competitiveness of the entire industrial sector of the Ukrainian economy. Therefore, well thought out, properly selected PIC outlines the most optimal way and ways to achieve the goal, provides the company with a choice among perspective development strategies, a strong position on the domestic and foreign markets.

Successful implementation of the program of increasing the competitiveness of the industrial sector of the national economy will

contribute to a qualitative shift in the economy, which will result in the attraction of foreign direct investment in Ukraine, and with it new technologies.

The question of the cardinal increase of the competitive advantages of industrial enterprises related to technological innovations, the formation of a favorable business environment and effective competitive markets remains extremely urgent for Ukraine, which would enable Ukraine to increase its productivity and competitiveness, as the Ukrainian industry is in the lowest position, the ranking of global competitiveness among European countries.

High-tech industrialization, replacing deindustrialization. As the experience of the highly developed countries of the world who have taken the course of neoindustrialization, the main task of increasing the competitiveness of the industrial sector is the formation of a new, effective industrial policy. Strategic directions for intensification and modernization of industrial production were formed for the development of the industrial sector of the Ukrainian economy. Seven key determinants of increasing the competitiveness of industrial enterprises, in particular: institutional and political, organizational and managerial, foreign economic, structural-production, financial-investment, innovation-technological and social, were identified.

These determinants are generalized and can be used by any other sector of the Ukrainian economy. In the application of these factors, the main role is assigned to the state.

The need for state intervention in the process of radical increase of the competitiveness of the industrial sector of the economy is conditioned by the fact that the causes of Ukraine's backwardness are systemic and largely depend on the quality of state administration and the creation of framework conditions for effective entrepreneurship, innovation, integration and convergence. At the same time, an important role is played by the development of a program for improving the competitiveness of industrial enterprises.

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**SOCIAL PARTNERSHIP IN THE  
SYSTEM OF ORGANIZATION OF  
THE SOCIAL ENVIRONMENT OF  
EFFECTIVE COMPETITIVENESS  
MANAGEMENT**

The purpose of the article is to summarize the intermediate results of the analysis of postmodern conditions and characteristics of social partnership as a direction of organization of environment of competitiveness management in the processes of socio-economic reproduction.

The relevance of the main theme is due to its fundamental importance for competitiveness and success in the global strengthening

of the postmodern conditions of stronger of the role of knowledge society enclaves. Partnership and competition are complementary and mutually resonating sides of social reproduction. Accordingly, both of them significantly change during global transformations of historical level. The importance of the analysis of the drift of social partnership mechanisms in the competitiveness management strategy is increased by this fact.

The research resource and methodological foundations of the text are connected, firstly, with classical works and new studies of competition processes, secondly, with the analysis of organizational and managerial relations, and thirdly, with the theory and practice of social partnership in various countries.

So, now, in a historically limited period, humanity needs to decide on a new corridor of freedom, to choose its horizons. The confrontation of supra- and domestic forces manifests a fundamental contradiction: the omnipotence of private interest or (with its using) the solution of much deeper problems of society – and, accordingly, either the universal imposition of patterns, or the preservation of the identity and diversity of the cultural and civilizational worlds with their security bases and development. Ensuring a balanced unity of state capabilities and private initiative requires finding effective mechanisms for the integration of interests.

The intellectual component of management is changing radically. The characteristics of complex labour are socially necessary, requiring venture formations, scientific, educational and industrial clusters and innovative synergetic management. For a long time, science and education have been complementary to productive work, but the industrial stage of development has dramatically changed the attitude and requirements for their quality and the role of the regions in ensuring strategic competitiveness.

Further transformations led to the transformation of both education / self-education into a continuous process, and science into the first / leading productive force of society through the position of directly productive force. The knowledge-based economy essentially changes the production hierarchies that are familiar to industrial and pre-industrial cycles: first, the results of management depend more on the application of innovative ideas than on physical strength, dexterity, or endurance. Secondly, the use of high technology is more important than the processing of raw materials or cheap labour. In turn, this brings to life the structuring system and the economic relations, the role of

cognitive society, the tightening of requirements for flexibility and speed of changeover, ensuring the discipline of supplies, etc. So, the position of the new middle class as a subject of socio-economic modernization is being strengthened, the importance of information support for management is increasing. As is known, the material and technical base of economic management is an objectified component of the productive forces of society, which really exists exclusively in organic combination with the subjective component. It contains the material and technical bases of production, division, exchange and consumption, and is reflected in the material-material, social-value and ideally-spiritual levels.

Its functional structure includes the energy base, means of labour, and objects of labour, technical, technological and informational characteristics. The main system aspects of the material and technical base of management are a functional, sectorial, organizational, managerial, and regional. In a knowledge society, scientific and educational preparation and improvement of economic management takes precedence. Scientific, educational and production cycles of the economic system contain as their leading units: fundamental research – applied research – technical development – the manufacture of new technology - the use and distribution of new technology. To release its creative potential, science receives the characteristics of a post-non-classical, integrating the methods and capabilities of various areas of knowledge. At the same time, on the one hand, the scientific and educational structures of the industrial complex are obliged to provide quality services to their profile, educating (that is forming, shaping) a person not only as a carrier of goods, but also as an individual, preparing for a meeting with the challenges of the post-modern level. On the other hand, for this it is necessary to learn to rely on the broad involvement of people interested in the results of the training of representatives of various groups of society and business, taking into account the opinions of the expert community. To structure the regional economy, the technological equipment of the workplace, the organic composition of capital, small-scale production, and cooperation, the integration of industrial hubs and stages of technological processes are becoming increasingly important [1-5].

Accordingly, the formation of scientific, educational and industrial clusters is a key element in ensuring the rise of competitiveness of the regional economic system and the well-being of the population in the context of the growing role of the knowledge economy, and their



support is the most important direction of socio-economic and political not only state but also regional policy. After mechanization and automation, a person is left with something that does not fall under this process and is concentrated around the creative development of its essential forces; The main source of value at the present time is the creative, primarily intellectual, potential, and not the psychophysical efforts of the employee, the priority of competitiveness development strategies - the production of knowledge and their effective application; value added is distributed based on the cost of the manufacturer; the system-forming relations of society are being democratized (labour, property, management); structures of exchange and consumption are transformed; eliminated the foundations of the classical forms of alienation. The transition to small-scale production with frequent readjustment of technical and technological cycles requires adequate staff readiness for this, primarily due to possession of basic methodologies and ways of their creative adaptation to specific post-modern conditions and features of the activity site [6-8].

Strengthening the role of information and a new media in society, the global scale of social projects is combined with the individualism of perception. Connecting value gaming and educational hierarchies allows you to rely on children's complexes of perception of images, rejecting the "adult" series of rational and logical reasoning. Some of the intraregional signs may not correspond to the canons of external perception. Gaining a meaning, inclusion in the socio-cultural space becomes a conscious personal choice, the emergence of both citizenship and social relations. Accordingly, the postmodern ideas about the social economy and the welfare state do not involve emphasizing the interests of various social dependents and their servants, but actively supporting creativity (primarily intellectual and spiritual) with the realization of human priority, their rights and freedoms; social justice, that is, social equality of people in rights and opportunities; and solidarity, understood as an expression of the community of humanity and sympathy for the victims of injustice. To realize it, mechanisms of social partnership are necessary in the embodiment of the trinity of forms of democracy – political, economic and social. A necessary prerequisite for political democracy is the construction of a democratic state of law and civil society with broad regional local self-government and a decentralized power structure. The foundation of economic democracy is based on the pluralism of the main forms of ownership – private, cooperative, joint-stock, and social democracy – in social justice and equal rights of

members of society. Common prosperity is associated, rather, with value-sense complexes not of idleness and consumerism, but of creation and creative search. And the most complete self-disclosure in creativity implies not only initiative, but also discipline, responsibility, and not only in labour, but also in general civil relations [9-12].

Business relations are more superficial level of studying processes than economic laws. Thus, they are more dynamic, richer in content; allow involving in the analysis a significantly wider range of phenomena of social life, continuing the research ascent from the abstract to the concrete. At the same time, they provide additional systemic regulatory organizational and managerial mechanisms mediating the effect of the aggregate human factor on objective trends. Finally, their emphasis opens up the opportunity to move from the socio-economic system to economic integrity, including the fundamentally heterogeneous, including non-system elements. At the same time, economic relations are much more extensive than production relations proper, encompassing socio-economic communications and socio-cultural capital, reflecting the characteristics of labour, property and management in the distribution, redistribution, exchange and consumption of the product and services. The development of economic relations enhances the regional and corporate components, extending to a number of different-quality levels, among which there are mega-, meso-, macro- and microplanes of interaction [13-15].

The formation of the conditions for a stable modern and postmodern development envisages the creation of a “critical mass” of progressive changes in the world of work, combining the response to today’s demands and probable future challenges and associated primarily with the improvement of the social partnership system. Production democracy occupies the most important place in the productive unification of the productive forces and ensuring social partnership, the improvement of the mechanisms of which today is not only an additional organizational resource, but also the most important way to achieve social harmony and maintain a productive effective socio-political environment on the basis of value-sense complexes. Creation and distribution of value is directly related to the characteristics of usefulness of thinking, the unfolding of its general forms, the reality of the ideal seam. Multiform meanings of life: human, cultural and civilizational worlds – determine the direction, pace, form and sequence of endogenous transformation of their specific characteristics, but they manifest themselves as a party of value perception of the world. Value-

sense complexes – are spiritual, moral and ideological structures, which includes both social elements: cross-cultural and specific to each particular cultural and civilizational world. The content of it is closely related to the peculiarities of the realization of the value hierarchy of values correlates in the evaluation system. Value-sense complexes are formed and realized on two main levels: the fundamental and functional – respectively, subsystems of value-ideological and value-functional complexes, which reflect, for the most part, the ideal-spiritual and real-life domestic cuts. Thus, the society provides a kind of socio-cultural “axes”. It is not easy to establish the foundation, the dew point of the growth of community and citizenship, but it are formed socially important motivating action / inaction, the final transformation vector, the activation of the productive forces of society, structured and ordered the social chaos.

The formation and operation of the value-sense complexes are characterized of human culture and civilization of the world are analysed. To do this, they are studied as an important factor:

- an interpretation of reality by man,
- people’s stimulation to action,
- the formation of the social environment in a particular cultural and civilization world,

- competition between different cultural and civilization worlds.

Accordingly, development of specific value-sense complexes, which is based on the development of certain archetypes, leads to the formation of social and cultural traditions, member of the diverse and variable combination with the other in the structure of socio-cultural capital. With their qualitative differences (even if the productivity of themselves), they say about chimerical social and cultural space of dialogue, and the mechanism of action of trying to describe in terms of computer viruses, etc. Outside the interactions of different-quality structures are based on deriving their internal contradictions in the surface layers of relationships and transform it from a destructive and productive in moving often carried out through a mechanism of various irrational-converted forms. The transformations of socio-cultural capital in processes of economic reproduction takes place in the amplification characteristics of postmodern culture and post-industrial society.

So, value-sense complexes have own potential for effective systems of social management and partnership. In particular, social management is a way of self-regulation, consisting in advantages in terms of socio-cultural capital to the total of the corresponding cultural and civilization

of peace on the basis of the fundamental value-sense complexes that gets translated into sub-levels of internal and external interaction to social norm. In this process, the practical truth of value-sense complexes ensures efficiency of their impact on the individual and social levels of postmodern democracy.

During Modernity characteristics of cultural and civilizational worlds grew out of the foundations of system-relations of work, ownership and management. With increasing postmodern transformations the value of the information sphere increases. Postmodern approaches to social management do not negate, and actualize the potential of the modern and traditions. But, at the same time, it is open up new opportunities associated with the increased use of traditions and customs, collective relations and interactions, informal communication and social networks, with the synthesis of the elements of management, self-management and non-management processes. And nowadays the radical nature and scope of changes are evident. In the presence of a complex movement that simultaneously combines different models, scenarios and processes. It is not only about political conditions for realization of freedom, but also about a much more global its prospects related to tolerance and multiculturalism dominant. Increasingly asserting itself a process of change, this provides coexistence and crossing various development trends, among which (unlike the Modern) none can claim exclusive value that allow abstracting from the other. Thus, it's necessary for every member of society should be tolerant to all, to recognize the right to exist dissimilar and unacceptable – and prepare for the most incredible social contacts, when stable external support in the form of a common ideology, common culture, and recognized science weakens. Culture (in particular, organizational one) ceases to be focused on specific groups of the population. Now everyone can choose it that close for him. Elements of a variety of interpretations of socio-cultural live are in the minds of everyone. There is a place for cultural and civilizational worlds on the basis of any productive value-sense frameworks; former leaders of modern are not more successful in terms of logic of postmodernism than others. The logics of postmodern researchers are analysing freedom in social and cultural field. They consider unfree industrial society, which subordinating all possible tendencies of social and cultural capital to deploy consumer-utilitarian tasks that created the preconditions for the one-dimensionality, the alienation of man. The transition from the structuring by the laws of socio-economic systems to the peculiarities of non-system socio-cultural wholes where many come

to the fore play, education, and etc. form of values is performed. So, general basis and reasons are lead to obviously a mosaic, hybrid, public communications conglomerate, which are emphasizing individual psychological origins (rather than socio-economic). The equivalence of different poly consistency, inability to advance the establishment of a hard consistency and scale of socio-cultural canons increased – instead of the usual last stable hierarchies. The public communications are come more increasingly probabilistic, stochastic ones. At the same time, the need for public support and protect the basic value-sense complexes for realization and consolidating the regulatory functions of socio-cultural capital are increased.

And earlier public relations were recorded, first of all, in forms of information relations producing. Peculiarities of post-communist and post-industrial transit are forming an extremely contradictory mosaic of social relations, which includes the features of randomness and indirect changes, elements not only create the prerequisites for development, but also degradation. The presence of a some socially important tasks characterizes not only the transit to the future, but also problems unresolved in the past. Concepts of “postundermodern” or “almost postmodern” culture reflect the peculiarities of this state. Thus the legal regulation of public life is growing on the regulation, enshrined in traditions. Cultural and civilizational worlds due to flexibility, mobility of its surface, the actual layers are saving fundamental, absolute values. Public relations and contacts are though historically transformed, but within the boundaries, defined by aims of the conservation and development of the social structure. Historical experience, social heritage, cultural peculiarities are pushing people to a particular notion of normative / non-normative and desirable / undesirable behaviour. The social nature of the interaction is focused interpretations of people and provides a basis for the selection of effective in the cultural and civilizational environment, the social impact of technology. So, because of the scattered nature of social experience and knowledge we can only analyse, predict and evaluate of possibilities and limits in effective impact on the natural course of events and processes.

Post-industrial relations of creativity are direct, universal, free and democratic ones, because the development of socio-cultural capital becomes especially importance. Now the role of education and science is changing dramatically. On the one hand, to participate in the small-scale production, development of new technology people forced to constantly upgrade their skills. On the other hand, production of an

essential part of the new value depend of intellectual creativity, not the strength, endurance, volitional characteristic traits of human capital. Accordingly, it is so little to see in person the support of labour processes; it is necessary to ensure the development of personality. Social relations mediate activities in the work during the process of labour; but social relations are the essences of activity during creating processes. Production roles are formed in the course of work where there are a wide range of non-routine tasks and there is no constancy procedures. Role-owned networks have a dominant place in a relationship, and they are large and dynamic, and the nature, length and location of identification of roles are changeable with high degree of interaction. Correction of behavior in non-standard cases, while officials rotations and development of technology, actualize the need for “excessive” knowledge and experience. In this situation, it is preserving the dilapidated model of labour relations, the obstacles to the emergence of new forms and contribute to a decline in production. At the same time, the processes of diffusion of norms and characteristics of social processes in the sphere of labour unearned (and vice versa) are strengthened.

In contrast, the law is formed consciously and purposefully. Law as a form of social regulation appears spontaneously in the course of human life. The Law System is a necessary attribute of cultural and civilizational world. It embodies the will of the people as a collective, and knowledge of the legislator. Law provides a legal expression of own strength in its official recognition. If the classic version of civil society creates a legal state, in terms of social inversion state is obliged to take care of the development of civil society, to assist the formation and development of civil society. Combining the resources of political and economic power can be especially dangerous for fragile democracies, as it creates the foundation for the revival of authoritarianism and does not allow the possibility to transform the citizens in the social and cultural capital of society. Freedom and responsibility are the right to self-selection and the obligation to be responsible for it. Therefore, the tandem of freedom and responsibility is implemented by public and on a personal level. The habit of responsible citizenship is formed by a responsible and free participation in public life. Accordingly, the state of law implies, first of all, and be bound by the rule of law, respect for due process, recognition and enforcement of the rights of each person, the mutual responsibility of society and the individual, the organization of control over the implementation of the rule of law and the legitimacy of

the regime on the basis of law. At the same time it is necessary to improve not only the material conditions of life, the production of technical equipment, but also social capital, culture and professionalism of worker, labour standards. Today society, respectively, restructured rather around interests, needs and value-sense complexes, based on which of the trends of the creative initiative and not the former ideological, professional, class groups there are new association – which radically transforms the limits, capabilities, resource base and methodologies for effective social management. At the same time, the results of participation in competition are often conditioned by self-discipline, readiness to work in their place with utmost dedication, on the verge of and beyond the limits of the possible, as well as team interaction, coherence, consistency, coherence. For a comprehensive assessment of the potential and prospects for the development of industrial democracy, today it is advisable to highlight: by the level of participation, industrial democracy (in one enterprise) and economic democracy (in the industry and the entire economy); by degree of participation - participatory democracy (minority in governing bodies with a deliberative nature of authority), co-management (equal representation and the right of veto), self-government (production participants manage the enterprise, as a rule, according to the principle “one employee – one vote”); according to the form of participation, democracy is direct or indirect. In the management of property, industrial democracy, as a rule, is expressed in determining the profile, range and scale of production, the ratio of profits and costs, in the formation of funds, personnel movements, control of the administration; in production management – in solving issues of technology, control, ensuring rhythm, improvement, internal production flows, storage of values, achievement of labour discipline; in the management of the social sphere – in the correction of the permanent and variable parts of earnings, forms of stimulation, working conditions, environmental requirements, in the management of the public utility sector – in the allocation of additional corporate opportunities in solving problems of recreation, housing, health, education, childcare facilities, corporate services, etc. The introduction of industrial democracy is not only a direct benefit of both society and the direct participants in the partnership, but also a necessary stage in the formation and maintenance of socially responsible behaviour in society.

Models of transformations based on “saving on variable capital” and a pedantic description of functions and actions naturally stop working

when the tendencies of building a post-global “smart society” are strengthened. On the one hand, the most effective force in these conditions is: talented young people, all capable of creating socially significant innovations, as well as highly skilled workers (above all, mental labour), focusing on the quality of life and conditions of activity, migrate easily around the world or fulfil external orders with the same stay. On the other hand, easily controlled processes of formal participation in the production process by themselves cease to be productive, turning into the lot of machines and automata. Moreover, participation in the replication of things becomes a sign of lag. Accordingly, the model of behaviour of the “economic person” goes into the basis of providing a wider range of effects of the variations of the “creative person” [16, p. 17]. The political and managerial support of these processes is primarily associated with the development of forms and mechanisms of social responsibility, as well as the addition of resolving the dichotomy of democracy / autocracy by meritocracy and bringing to the fore the organizational models associated with stimulating activity and cultivating post market values in the environment of value-semantic complexes cultural and civilization worlds. The result of participation in competition is often predetermined by self-discipline, readiness to work in his place with utmost dedication, on the verge of and beyond the limits of the possible, as well as team coherence, consistency, coherence. Thus, ensuring the quality of life and the conditions of creativity comes to the forefront of management, appropriately transforming the actual resource-methodological bases and redirecting them to the growth of the range of application of a deeply individual combination of essential forces of each, for example, through mechanisms of social partnership and industrial democracy. In particular, for staff of corporations, as a rule, wages are provided that correspond to the average European standard, an expanded social package (including the possibilities of maintaining working form due to a certificate for visiting a swimming pool / gym, medical insurance for family members, sanatorium-resort rehabilitation, etc.) [17-23].

Accordingly, one of the mandatory indicators of the success of the development of a social system and the conditions for the competitiveness of a national project on a global scale was quality of life, which was often directly associated with the concept of a social state. Meanwhile, on the one hand, there are tendencies of increasing pressure on budgets from social welfare groups, which, it seems, can be a factor in undermining competitiveness (especially when competing



with regions of low additional costs and labour costs). Against this background, the governments of many countries are increasingly attempting to shift the burden of overcoming the crisis to the working population in various ways, curtailing social programs, reducing the public sector, raising the retirement age, etc. On the other hand, the transformation of the knowledge economy into the structure-forming core of post-modern socio-economic processes, both at the global level and at regional scales, can significantly influence effective approaches to ensuring success and competitiveness of stimulation and management in a socially oriented post-market economy, where it is productive not at all savings on variable capital, and the full development of man and the formation of conditions for individual and collective creativity. Creating conditions that are beneficial for long-term sustainable socio-economic development in a deliberately unstable environment requires priority to ensure a solid socio-cultural basis and the cultivation of forms of its development that are adequate to the era. Accordingly, the postmodern growth processes radically transform the role of culture in the life of both individual, cultural and civilization worlds, and for the results of their polylogue, its tools: globalization, virtualization, atomization, and so on – provide stable instability of the social and natural environment. A person is introduced into a state of constant choice - or readiness to abandon him in favour of stereotypes of consumption of material and spiritual benefits. The mosaic of ways of production relations in the territories of Ukraine and the configuration of everyday patterns of labour behaviour in them are largely determined by the interactions of complex processes of development of post-industrial and post-formal tendencies on a global scale, post-Soviet dynamics and increased manifestations of the archetypes of the Ukrainian mentality itself. At the same time, the place of labour relations in the worldview and social life is mobile. Strengthening trends associated with an increase in the share of intellectual activity in socially necessary labour, and related changes, is recorded as a “smart”, “informational” society of “knowledge”. However, on the one hand, the cumulative costs of creating and maintaining its enclaves do not always and not quite pay off. On the other hand, sustainable independence (the ability to take decisions in their own interests) of a state without reflecting these advanced processes is impossible. Moreover, the growing importance of education, science and culture among the value hierarchies entails the acceleration of social development, and the rise of society, in turn, leads to an increase in the value of science and education. Accordingly, the

processes of forming groups of people (from managers to highly qualified specialists, technicians and workers), working with knowledge (which receives scientific substantiation in various concepts of the so-called “cognitive”, “new intellectual” class, knowledge workers, etc.), which is not only capable of transforming the development base of both the economy and the whole society, but also sets new challenges in the field of motivation.

At the same time, the tendencies of postmodernization of society (as postmodern transformation) create the basis for strengthening in public relations the positions of representatives of the new intellectual class, which, as a rule, have different hierarchies of values, a broad outlook, greater demands on working conditions, they have life and service orientations related to self-esteem, creativity, self-realization, growth of professionalism, etc. At the same time, the independence of the economic entities integrated into the technological chain is relative; they are subordinated to technological discipline, as well as to the requirements of standards, delivery time, etc. Moreover, highly qualified personnel are generally prone to mobility in the direction of improving their position and increasing the “field of opportunity”. They migrate, go into more profitable areas. Moreover, the globalization of the information space facilitates both the direct outflow of gifted, educated and active members of society, and the servicing of external interests by them while maintaining their place of residence. “Cognitariat” is an essential part of the ‘prekariat’. Meanwhile, transformations of the socio-cultural climate are precisely designed to ensure the improvement of the quality and activation of the productive forces of society. In turn, the long path of formation and shaping of social partnership turns it not only into an effective option for preserving gains by workers, recorded, in particular, in the ideology of the welfare state, but also a strategic direction for transforming the essence of social relations: strengthening post-labour principles of social life activates the integration of labour and unearned dimensions of life; skills and knowledge diffuse, finding all new fields of application and development. The complication of the sociocultural structure of a society and the multidirectional interests lead to the evolution from tripartism to the representation of multiple and different-quality interests.

Organizational and managerial decisions are able to strengthen the position of a choice, not only the content of each of their elements of scientific, educational and industrial clusters, but also the quality of their interconnection, ensuring a systematic interaction and cooperation are

experiencing transformations of the historical level. As is known, the traditional culture of the agrarian society implemented the main function of economic management in the framework of the formula “to do it because it was done before us”. In an industrial society with a modern culture, the generalizing direction of economic management was “to do it because it is rational”. The post-industrial region is characterized by the “to do it because it is efficient” approach. Moreover, a variety of paradigms for the implementation of management compositions can be effective for regional business systems. The postmodern culture of post-industrial society is fundamentally open, de-ideologised, non-violent and is based, rather, on the development of advantages, rather than the elimination of shortcomings. Accordingly, it becomes extremely important not only to enter the common track, “eliminate gaps”, but rather “preserve and increase the competitive advantages” of the region, creating clusters of further expansion on their basis. This is the leading dominant of the abolition of the previous methodology of utilizing resource bases, so this feature permeates the successful organization and management of economic activity, primarily the immanent era of intellectual activity.

Focusing on methodologies and resource bases to stimulate desired changes based on tools of indirect actions, soft power, flexible power and control further expands the boundaries of value motivation and motivation, the possibilities of social and individual levels of psychological influence on regional economic entities - up to the creation of “social and psychological automata” and situations of self-hypnosis. Purposeful impact on the state of social reproduction involves, above all, increasing attention to the levels of the economic mechanism of society (as a more mobile, relevant part of the economy), its material and technical equipment, productive forces and the ideal sphere. When realization this, the prerogatives of top managers are not abolished at all, but the forms and mechanisms are being modernized.

At the socio-structural level, appropriate corporate reform eliminates intermediary links, turning part of administrative managers into advisory actions to increase decision professionalism and simplifying the management system, in the social and cultural plane, in new corporations, instead of the traditional cult of discipline, loyalty, servility, personal values increase, freedom, professionalism, solidarity, which through electronic communication constitute a special priority Tet and in subcultures of regions, and in an integral hybrid culture of corporations. Accordingly, the missions and tasks of the economic

system of the region, relying on the basic value-sense complexes, become the same for all participants in the production process and turn into the base of their common control, leading to a general high socio-economic effect.

Balancing the strategy and tactics of transformation requires priority attention to the forms of comprehensive support for the participants in the production process (in particular, overcoming the danger of converting economic power into a political-ideological plane). Responsibility of all national actors to society, first of all, concerns the balance of duties and rights; on the one hand, the state, on the other private entrepreneurs, relies on both public and private law, and on the foundations and traditions of a particular cultural and civilizational world, held together by inherent his core value-sense complexes.

Thus, it is possible to come to conclusions about the creation of a beneficial for innovative changes in the social environment and production clusters – the key organizational units in ensuring the rise of the competitiveness of the regional economic system and the welfare of the population in the context of the increasing role of the knowledge economy, and their support is the most important direction of socio-economic and political not only state, but also a regional course.

In the management subsystem of social and economic relations, the priority is the importance of relations connected with the complex of postmodern implementation of the principles of social partnership and industrial democracy. The special attention of society under the influence of the changes that is taking place is focused on scientists and research teams at the breakthrough level, whose activities are linked to the possibility of launching “chain reactions” for a number of areas. Accordingly, the decisions carried out in this regard, reinforcing the positions of one choice or another, not only the content of each of their elements of the scientific-educational-production clusters, but also the quality of their interconnection, ensuring a systematic interaction and cooperation is experiencing transformations of the historical level.

Not formal constructions, but the quality of life and the possibilities of creativity should determine the indicators of a country’s progress; new horizons of development are opening up to those states in which the social system is most conducive to realizing the creative potential of citizens. Complex supporting of the forms and structures of public safety and development is included in the plane of the civil responsibility of everyone and everyone in the implementation of the republican structure of life activity. The organic development of society

is due to the dominance in its socio-economic space of integration features, rather than disunity; at the same time, on the basis of coordination, and not the subordination of specific interests of social groups. One of the important areas of mutually beneficial cooperation of efforts is the mechanisms of social partnership, which are able to grow to the quality of a civil polylogue. During this, the renaissance of sociocultural foundations (above all, trust) of society is an indispensable condition of public cooperation and cooperation, the transformation of spiritual energy into material progress, the actualization of the productive potential of society, which assumes, in the realization of postmodernization, reliance on its constantly reproducing features that are reduced to value complexes.

At the same time, the independence of the economic entities integrated into the technological chain is relative; they are subordinated to technological discipline, as well as to the requirements of standards, delivery time, etc. Moreover, highly qualified personnel are usually prone to mobility in the direction of improving their position and increasing the “field of opportunity”. They migrate, go into more profitable areas. Meanwhile, transformations of the sociocultural climate are precisely designed to ensure the improvement of the quality and activation of the productive forces of society. On the one hand, the content of labour activity, going beyond the formal control, consist of interest of participants (stakeholders) – and, accordingly, the corporation model that is widespread today is focused on the company’s variant of participants ( stakeholder’s company). On the other hand, the success of intellectual activity often directly requires a variety of professional and general cultural communications, even more closely integrates into cooperative communications, production and social networks, which not only contributes to the further growth of sociocultural capital, but also transforms its structure to adequately post-industrial labour trends.

Accordingly, among the organizational forms at the level of strategic interaction are fixed scientific, educational and industrial complexes. In the improvement of management based on innovative synergistic approaches and the rise of the role of stimulating the desired transformations, the range of diversity of management compositions increases. The mechanisms for improving social partnership with a progressive vector of structural transformations become a resource of post-industrial changes in social relations that are adequate to the economy. The formation of the conditions for a stable modern and postmodern development envisages the creation of a “critical mass” of

progressive changes in the world of work, combining the response to today's demands and probable future challenges and associated primarily with the improvement of the social partnership system.

The practical significance of the article is due to the possibilities of applying the findings obtained in it both during forced transformations, and in the course of teaching the corresponding special courses in higher educational institutions (universities).

According to the author's point of view, there is reason to expect an increase in the effectiveness of further practical and theoretical development of the topic chosen for the article in the case of priority study of the regional conditions of industrial democracy (primarily in system-building relations) to improve the incentives for its mechanisms.

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**OPTIMIZATION  
MODEL OF  
LOGISTIC  
PROCESSES IN  
BUSINESS ENTITIES**

Increased competition in domestic and global markets and the simultaneous aggravation of the problem of food security require a significant increase of the level of development of the agricultural sector in the GDP of Ukraine and the transition of the agricultural sector to more advanced control over the entire range of core and supporting processes. This leads, in turn, the need for new , previously unused control systems agricultural enterprises, which would give the opportunity to obtain a synergistic effect due to not only optimize their own objects of management, but also due to the interaction with related parties in the chain of promotion of agricultural raw materials and processed products. It is such an effective tool for the management of agricultural enterprises of Ukraine may be the concept of optimization of logistics in the direction of the Association of theoretical and methodological approaches, which uses modern world experience optimizing material flow in logistic units.

According to international studies, the use of scientifically-based methods of optimization of logistics processes to reduce costs by 20%, the cost of inventories by 30%-70%, reduce turn-around time of material flow by 20%-50%. It is obvious that the achievement of these indicators in real terms of the resourcing of the agricultural sector could be significant benefits.

However, due to various objective and subjective reasons, innovative methods of optimization of logistics and marketing we are used insufficiently .You may notice that today agro-logistics – new applied direction of the logistics associated with the use of its provisions and methods in the field of agricultural production. In Ukraine agro-logistics is at an early stage of development. However, in developed countries - USA, Canada, Western Europe, Australia – long ago estimated the high efficiency of logistic approaches in agribusiness. Today in many countries of the European Union in the state structures assume a proactive role in the implementation of logistic approaches in the



activities of agricultural enterprises. Formed agricultural logistics as a separate research area, in which are developed scientific principles, methods, mathematical models, algorithms, which provide the ability to plan, monitor and manage the transportation, warehousing and other tangible and intangible flows and operations that occur during the delivery of raw materials to agricultural production, the organization of the production process, delivery of agricultural products processing, to the final consumer according to its requirements.

Study questions use of logistic approach in the management of material resources, it can be argued that its novelty consists in the change of priorities of economic activity , where the main role is played not just the product material, and the whole process in the form of logistics flow (financial, information, return) between suppliers and consumers. Therefore, it can be noted that for the optimization of logistic processes is to optimize the entire forming cycle logistics flow [1]:

- Supply logistics
- Logistics inventory
- Production logistics
- Distribution logistics
- Warehouse logistics
- Transport logistics

The activity of the enterprises of the agricultural sector makes use of concepts and tools logistics in the sphere of material support their core business through the optimization of procurement processes main capital goods and other materials in order to create or update the Park units of technological transport, equipment necessary to perform the production process in accordance with agronomic requirements, auxiliary equipment, means of production processing capacity of the agricultural holding. The use of instrumentation, and logistics planning and procurement of material resources involves decision-making based on reliable, sufficient and timely information, which should be the decision makers (DM). I.e., is becoming the actual process of creating in the agricultural holdings logistics information systems and the use of tools of information logistics. The creation of a logistics information system Corporation will enable the implementation of information exchanges, both within the boundaries of internal micro-logistics systems and integrated supply chain (e.g. in the marketing of agricultural products).

Integrated the company's national agricultural sector can be characterized by the following indicators [2]:

- Highly diversified activities
- Relatively low production cost and high value-added products
- Developed logistics system
- Integration of production subsequent processing of commercial products
  - Geographically distributed structure
  - Developed system infrastructure
  - The availability of innovative technologies in production
  - The concentration of capital
  - Complex multi-level control system
  - Effective use of available resources
  - High professional level managerial staff
  - The availability of investment attractiveness for foreign companies

The largest number of agricultural holdings recorded in Kherson, Dnipropetrovsk, Donetsk regions. The amount of arable land in Ukraine is more than 32 million hectares, of which 40% is processed in small and medium enterprises.

Managing the logistics processes is a basic and one of the most important components of any enterprise information system. Today the use of existing commercial ERP systems allows you to work with one integrated software product instead of several disparate. Unified more optimally used to control the processing, logistics, distribution, supply, accounting, financial and tax accounting. It should be noted that the introduction of classical ERP systems belongs to the category of “heavy” custom software products – their selection, purchase, implementation and maintenance require very careful planning in the framework of a long process involving the partner supplier or a consultant. The use of ERP systems are usually closely linked to the creation and maintenance of a powerful database. Among the most well-known commercial software products that implement the concept of ERP, and are used in the management of large companies, can be called in the first place, SAP, Oracle, Microsoft Dynamics, 1C:Enterprise (module – logistics), Parus Corporation v.8:10, Galaxy – Logistics Management and others. In recent years, in a world of rapidly developing market “cloud” online versions of systems enterprise resource planning.

Structural task scheduling consists of the following components [3]:

1. Objective (O). Many transport, educational and industrial events organized periodically by the way, repeating at the same time through the day, week, otherwise an integer number of days. Such an

arrangement allows to reduce the costs of planning, which is the main purpose of the task. Scheduling is the process of planning the collection of centralization and evaluation of the quality of the source information necessary and sufficient for the schedule.

2. The model of the object of research (M). The model of the object of research includes the original (X) and output (Y), and the conversion method in the original result (F) .

3. The original set (X). The schedule is often characterized by three main characteristics of the event, place and time (What? Where? When?). In public transport, for example, such characteristics are: cargo, date of transport, travel time. Education is the start and end times of classes, audience, and subject. Production is the start time and end time of the transaction, the machine on which the operation is performed and so on

4. Result (Y). The result is a work plan that includes an ordered time series of activities, deadlines, the work required resources for the execution of works, responsible person.

5. Method of converting the original result (F).

Possible a wide range of private options, objectives and evaluation criteria of the causes of a wide range of approaches to the solution. Methods of construction schedules can be divided into three large groups [4]:

- a) algorithms based on the decomposition of the task scheduling into subtasks (attachment tasks in the family of simpler tasks);
- b) algorithms based on the method of branches and borders;
- c) algorithms based on the correction current schedule (iterative algorithms).

Algorithms using the decomposition schedules may be based on:

- on dynamic programming;
- on greedy strategies.

6. The evaluation criterion of the result (C).

The paper presents a class of discrete optimization problems, described as a version of the fundamental problems of the theory of schedules. The resource model each problem class under consideration presents a system of  $m, l+m, l+m+l$  machines, where  $m$  parallel non-identical machines are intended to perform  $n$  operations.

This model was chosen as the standard for describing and studying the processes in which some operations work assigned in parallel to existing objects, and others create the queue in front of the individual object. This class is a subclass of optimal ordering one- , two - and

three-operational works that are assigned to the same identical machine.

The problems of optimal ordering works on identical machines are generalizations and variants of the task of compiling pipelined schedules and fairly well understood.

The task scheduling for non-identical machines more complex and virtually unexplored. In statements of the problem input data are set in a matrix of assignments that generate a significant increase in the number of feasible solutions and difficulty finding the optimum.

For the considered models series-parallel ordering and assigning work overall is a square matrix of assignments  $[\beta_{ij}]_m$  with non-negative integers, permutation  $\pi = (\pi(1), \pi(2), \dots, \pi(i), \dots, \pi(m))$  and diagonal, the corresponding permutation is  $\pi$ . As the basic design for building models used task assignments [5].

Objectives of the study form a class of tasks, which is a generalization of the assignment, and with other tasks series-parallel execution.

The model of the ordering process, in terms of which the formulated research objectives, contains the following components:

1. System resources are  $1+m$  machines, where  $m$  non-identical machines, t.i. machines with different performance and functionality, provide parallel execution of works. In the future this system will be called duplex in the sense that its input is the only machine, and the output of the  $m$  parallel identical machines.

2. Model jobs is described by a set  $G$  of  $n$  two-stage independent work  $g_j$  at the same time coming at the input of the system. The first stage of the work is done on the machine first level over time  $\gamma_j$ , and the second stage on – machine second level over time  $\beta_{ij}$ . Moreover  $\beta_{ij} = \infty$ , if any job  $j$  cannot be performed on machine  $i$ . Not simultaneously execution of works runs more than one machine. On each machine at any point in time is assigned no more than one work. Interrupt stages of the operation is invalid. All works are ready to run at the time conventionally equal to 0.

3. As an indicator of effectiveness is the length of the schedule or the time of operation of the system.

The input data serial-to-parallel arrangement contain a matrix  $[\beta_{ij}]_{m \times n}$ , in which the element  $\beta_{ij}$  is equal to the execution time of the second phase of operation  $j$  on machine  $i$ , and the vector  $[\gamma_1, \dots, \gamma_2, \dots, \gamma_n]$ , that determines the duration of the first stages of the work. Overlay vector

$[\gamma_1, \dots, \gamma_2, \dots, \gamma_n]$  for each row of the matrix  $[\beta_{ij}]_{m \times n}$  obtained in the input task data spreadsheet  $[(\gamma_i, \beta_{ij})]_{m \times n}$  and related combinatorial configurations.

In the most general case the problem of series-parallel two-step ordering of activities in a system of  $I+m$  machines can be formulated as follows: you must select each column in the table  $[(\gamma_i, \beta_{ij})]_{m \times n}$  one the column element  $(\gamma_i, \beta_{ij})$  so that under given conditions the process of execution of works to be the schedule is optimal by implication of the selected criteria.

In the case where the first stages zero, get the model of parallel machines, and in the case when there are three stages that are executed sequentially on a single machine of the third level (or it could be the same machine the first level), we have the model of  $I+m+1$  machines. Each generalization of the task assignments is considered a square table  $[g_{ij}]_m$ , the elements of which can be the number  $\beta_{ij} \in \mathbb{Z}_0^+$  or ordered pairs  $(\gamma_i, \beta_{ij})$  or ordered triples  $(\gamma_i, \beta_{ij}, \eta_j)$ .

In the first case resulting minimax task assignment and task search many solutions of the assignment.

In the second case, when  $n=m$ , we obtain a generalization of the assignment of a two-stage works in the system of non-identical machines, and, as a special case when a single early stages of work, the task of parallelization of a two-stage work.

In the third case we get generalization of the task of editor. It should be noted that in the case  $n>m$ , tasks belong to the class of NP-hard problems even in the case of identical machines of the second level.

All these problems are efficiently solvable using a unified computational scheme.

The method of successive build local optimal solutions, which in its basis, is beyond the bounds of the way the solutions of the assignment and differs from the known algorithms for optimal distribution of works only acceptable increase in the volume calculations.

The method consists in successive improvement of the valid solutions and builds all optimal solutions. It consists of two sequentially performed procedures.

The first procedure creates  $m-1$  submatrix and a valid solution to the problem, whose elements are the minimum values of the coefficients in sub-matrixes ordered by non-growth and, moreover, forms the initial matrix from the source task data. The second procedure consistently finds the optimal solution for each of the sub-matrixes and uses the

solutions obtained in the previous step.

It is possible to allocate three ways to build optimal solutions.

1. The way (a) consists in addition to optimum sequence for a submatrix  $B_{l-1}$  corresponding components of the admissible decision for a submatrix  $B_l$ .

2. The way (b) consist in an exception of optimum sequence for a submatrix  $B_{l-1}$  components of the decision and addition of the elements of a submatrix  $B_l$  belonging to a line and a column on which crossing there is an excluded decision element.

3. The way (c) consists in replacement two component of the decision for a submatrix  $B_l$  with the components corresponding to them in the same submatrix not belonging to the decision and application to the received sequence of actions of a way (b).

The complexity of the proposed algorithm in the worst case estimated at  $N_{max}m^4$ , where  $N_{max}$  is the maximum number of local optimal solutions in sub-matrixes.

Problems of series-parallel streamlining of transport works are solved also by means of a method of consecutive creation of local optimum decisions and are presented by the following tasks.

The problem of optimal assignment of  $n$  two-stage works in a system of  $l+m$  non-identical machines for the case  $n < m$ , which follows from the above task organize a two-stage works and consists in finding of the minimum schedule length from the rectangular matrix  $[\beta_{ij}]_{m \times n}$ .

Task - a special case of the previous task – at zero first stages of works. In a task it is known that there are  $n$  – objects, each of which is intended for departure in any of points  $m$  and costs of transportations of objects are known. It is necessary to minimize the cost of transportations.

This task can be considered and as a problem of definition of a stream of the minimum cost in a transport network of a special look where each arch of a network has single capacity.

To solve these tasks may use the same method sequential build local optimum solutions by adapting it to the input data, represented as a rectangular matrix  $[\beta_{ij}]_{m \times n}$ .

Formation of an initial matrix from initial statements of the problem consists in addition to the last bottom  $m-n$  rows containing zeros.

The complexity of these tasks is estimated as  $O(N_{max}m^4 \log_2 m)$ .

The next task is the problem of finding a schedule with the minimum total completion time one-step works in the system of non-identical

machines in case  $n > m$ . For the adaptation of the developed method to the solution of this problem it is necessary to provide the raw data in the form of a matrix consisting of  $n$  rows and  $nm$  columns that is to get the input matrix of task and forth to form the initial matrix of these data.

Further we will consider the problem of minimizing the average completion time one-step transport works, which are known to the ready time of each vehicle to perform  $n$  runs. To perform the steps of the algorithm for constructing all optimal solutions, it is first necessary to construct the matrix  $[\tau_i]_{n \times m}$  of moments of readiness cars to runs, to receive from it a matrix  $D$  of dimension  $n \times nm$  and, finally, the matrix  $D+B$ , from which the admissible solution of a task is found and sub-matrixes are formed.

As the development of the above results, considerable interest is the following model of efficient organization of passenger transportation. It is necessary to minimize the total execution time for  $m$ -bus  $m$  pendular routes between two points 1 and 2. Transportation should provide the  $m_1$  bus company 1 and  $m_2$  bus company 2. From timetables for bus stations know the departure time for each run from P1 to P2 in the opposite direction. All buses after the run have to go back to his business. In the task you want to minimize the total time of buses in the outfits.

To solve this problem developed an approximate algorithm with acceptable in practice, deviations from the optimum. It consists of two main phases. During the first phase, initial matrix of objectives and the scheme of local optimal sequences are all optimal solutions of the assignment, and the second phase is the split that minimizes  $T(\pi^*) = \min T'(\pi)$ , where  $\pi_1^*, \pi_2^*$  an optimal schedule for enterprises 1 and 2, respectively.

To perform the second phase of the algorithm had to solve an auxiliary task of minimizing the total execution time of all jobs  $n$  on  $m$  machines, if the number of machines is equal to 2, which represent  $\pi_1^*, \pi_2^*$  the optimal blocks of the index works, intended respectively for the 1st and 2nd machine. The complexity of the algorithm is estimated as  $O(N_{max} m^4)$ .

Further the use of the above result is of considerable practical importance in the optimization of logistics processes in the conditions of agricultural holdings.

Under the theme includes several modules:

1. Automated information management system fleet in terms of a group with regard to the timing of technical inspections units of technological transport, with the possibility of accounting for and analysis of all cost items.

2. Automated information control system capacity in terms of agricultural holding, taking into account the dependency of the commercial properties stored agricultural products from the time of its storage.

3. Automated information control system of productive capacity in terms of a group with the structure of the total cost of seed material, taking into account the current state of the fertile layer, with the cost accounting for seasonal watering, fertilizing, etc.

4. Based on the use of so-called “ant algorithms” implemented a WEB application for the calculation of optimized routes units of technological transport.

5. Implemented software application for small transport companies (up to 25 vehicles) on the basis of the software using MS Excel.

Trends of development of modern economy testifies to the increasing role of logistics, which in the conditions of growing competition, reduce information barriers and globalization is one of the most important components of the strategic development of enterprises. The importance of strategic planning in logistics due to the possibility of elaboration of strategic development programs of companies that focus on the optimal organization of stream processes and improve their competitiveness. Methodological apparatus of logistics proved the versatility of their use in optimization of streaming processes in all sectors of the economy. Integrated logistics planning contributes to improving the economic sustainability of companies in the market due to logistic coordination, allowing you to find a compromise between the functional departments of the company and to ensure its integration with the external environment. In modern conditions one of the main problems of domestic enterprises is the lack of logistics strategies designed for integrated supply chain management to optimize resource companies. Analysis of the experience of Europe and the USA shows that the world's leading companies focus their activities on strategic logistics to be able to cover suppliers, logistics intermediaries and consumers. The process of developing logistics strategies should be based on careful study of all possible alternatives for the development of the company and consist in the choice of priorities, developing markets served needs, competitive practices, resources and logistics service level. The choice



of strategic directions, companies must shift from competition on the basis of low costs and unique features of goods and services to the strategies based on proximity to consumers and the formation of logistics networks.

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**STRATEGIC  
APPROACHES TO  
THE FORMATION  
OF THE  
COMPETITIVE  
STRATEGY OF  
HEALTH CARE  
ORGANIZATIONS**

The reformation of the Ukrainian healthcare system accelerates and needs from top-managers of Health Care Organizations (HCO) urgent measures relatively adaptation to objective conditions, that dictates the market of healthcare services, and modern tendencies that influence upon its development. Certain indicators of health in Ukraine, especially average lifetime, remain one of the worst indicators in Europe. At the same time costs are quite high at the healthcare sector. The medical reform is directed at the reorientation of the financial support at the provision of services, not at the financing of partially outdated infrastructure.

The rapid passage to the market economics with maintenance of budget component of financing, centralized planning with the transition at the right of management at the time of permanent entrance of innovative medical technologies requires significant increase of the qualification level of medical workers and formation of the market view as a part of market culture, involvement specialists from marketing to the HCO management. The escalation of the question about the necessity of the health insurance, the cardinal reorientation at the unified system of the healthcare causes the necessity of implementation of new strategic approaches. Free choice of clinic and doctor by patient forms the competition on the market of healthcare services. In such way, the creation and introduction of new marketing strategic approach by consideration of HCO as the object of general strategy and marketing policy is an actual task. Now there are organizations of different organizational and legal forms of ownership at the market of healthcare services. Despite this, we can observe a shortage of various resources. Under the conditions of indicated input data it must be researched and found the ways of growth of the economic effectiveness of HCOs. The role of marketing strategic planning in HCO administration increases

with the growth of the competitive level between HCOs. It has task of the formation of the effective competitive marketing strategy. In present conditions the constant competitive development of HCO can be achieved only in the borders of using of the effective competitive marketing strategy. Different forms of strategies, which are using in the competitive practice between the enterprises of healthcare sector, defines the existence of the methodological problem their adequate and complex classification.

Such scientists as: M. Bilynska, Y. Voronenko, B. Herasymchuk, Z. Hladun, B. Danylyshyn, L. Zhalilo, L. Zatsna, T. Kaminska, N. Kryzyna, A. Lysova, N. Machuha, E. Martynyuk, O. Martynyuk, D. Medyanyk, Z. Nadyuk, V. Novikov, T. Nosulich, V. Ponomarenko, Y. Radysh etc. generally are showed certain aspects of the strategic management in the healthcare sector in their papers. However, a lot of authors do not pay much attention to the questions of matter and features of the marketing competitive strategies in modern Ukrainian literature. That's why the aim of this article is the research of the theory of strategic management, study of the features of the marketing competitive strategy of the healthcare organization, definition of the approaches relatively formation of the HCO competitive strategy, grouping HCOs according the possibility of using basic M. Porter's competitive strategies.

Primarily, it should be considered the meaning of the definition "marketing strategy". It means such strategy that is bounded with the marketing aspects of HCO functioning at all its levels – generally-corporative, business- and marketing-functional. It would be advisable to agree with the N.V. Kudenko's opinion (2004) [1].

Alfred D. Chandler, Jr. (1962) defined strategy as "the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources for carrying out these goals" [2].

Therefore, the marketing strategy of HCO is the direction and complex of actions the achievement of aims relatively patient's satisfaction and competition at the market of healthcare services using the means of marketing. We consider the marketing strategy as general for the whole organization vector for the achievement of the specified at some period aims, relying on the opinion of Ph. Kotler, J. Shalowitz, R.J. Stevens (2008), that "marketing strategy, as a rule, is an integral part of the business strategy, that provides wide direction of all organization functions" [3, p. 502].

The marketing strategy allows the creation of the competitive advantages. Therefore, from our point of view, competitive advantage is the HCO achievement that distinguishes favourably this HCO, in patient's opinions, from the other ones.

We have done wide research of the theory of strategic management. As a result, we came to conclusion that it is advisable to use the Porter's (1985) concept as a basis for developing the HCO strategy. Organization can use one of the types of competitive advantages – lower costs or higher product differentiation in comparison with competitors' products for the achievement of the constant competitive position. These possibilities depend on the industry structure. The competitive advantages in combination with the market, where the organization wants to work, allow forming and choosing one of three strategic approaches, which help to achieve the level of effectiveness that exceeds the industry indicators: cost leadership, differentiation and focus. Focus implies the concentration of the organization efforts on the narrow consumer segment, and it is possible if the organization can satisfy the necessities better than its competitors, and the segment itself is quite big to generate the desired revenue.

Graphically general approaches to the competitive strategy formations can be shown like in the Figure 5.2.

COMPETITIVE ADVANTAGE	COMPETITIVE SCOPE	
	Broad target	Narrow target
Lower Cost	1. Cost leadership	3A. Cost Focus
Differentiation	2. Differentiation	3B. Differentiation Focus

**Figure 5.2 Porter's Generic Competitive Strategies**

*Source: Porter, 1985 [4]*

Further, we should characterize some aspects of these Porter's Generic Competitive Strategies (Table 5.1).

Cost leadership – this approach that was very popular in 1970-th admits the achievement of the absolute leadership of company in some industry in costs, on the ground of the set of economic measures, that provide the achievement of this aim, including: the creation of the productive capacities on a cost-effective scale, activation of efforts on the base of company's experience; reduction of production and overhead costs; reduction of the operations with the low profitable client groups; optimization of costs in the research sector etc. Lower costs can

give the company some advantages relative to each of the groups of competitive forces.

*Table 5.1*

**Advantages of implementing lower cost strategies, differentiation and focus for each group of competitive forces**

Competitive force	Advantages of strategies implementation		
	Lower cost	Differentiation	Focus
1. Competitive rivalry	Possibility of profitability in the conditions when main competitors have damages or do not have “points of growth” of the profit	Possibility of creating consumer loyalty to the company’s brand and effective distancing from main competitors	Possibility of providing economic benefits through focusing at one market segment
2. Buyer power	Powerful buyers can use their power only to lower prices to the level of the least effective competitors	Possibility of reducing the price sensitivity to the goods or services by creating of a strong differentiated brand	
3. Supplier power	Providing flexibility in terms of increasing the cost of new resources	Providing a higher level of profit and opportunities for confrontation with strong suppliers	
4. Threat of substitution	General favourable conditions	More favourable position in comparison with competitors; perception of the company in terms of choosing alternatives between substitute goods or services	
5. Threat of new entry	Increasing entrance barriers to the industry markets due to lower company’s cost	Increasing entrance barriers due to the presence of a strong brand, which is a result of the company’s long-term efforts. It creates the synergy effect, including increase of the economic entrance barriers	Increasing entrance barriers due to creating of economic benefits in a separate market segment

Differentiation. This approach to the strategy formation according to M. Porter's concept admits the creation of such goods, which are perceived in the industry as unique. Differentiation can be done in different forms, conditioned by the potential competitive advantages of the company: by prestige design or brand; by technology used; by functional abilities; by the ways of providing the service; by methods of product distribution (for the establishment of a dealer network), etc.

Differentiation strategy allows providing the company's profit higher than average values in the industry, since it forms stable positions for withstanding to the five main competitive forces.

Focus. By choice of this approach the concentration of economic, organizational, financial, administrative and other efforts of the company in the separate market segment or the group of consumers happens. Focus, like differentiation, can vary depending on the company's advantages. In the ground of this approach is the general assumption that the company with its implementation can achieve narrow goals with much greater efficiency than competitors.

The Porter's conception of the strategic management and proposed approaches of the creation of company strategy, require a considerable amount of analytical work in the area of studying the state of the sector and competitive strategies. As we can see from the main concepts of the Porter's theory, the main accent is determining of the basic enterprise strategies, and their implementation in real market conditions.

The process of forming a strategy appears as a conscious process controlled by the subjects of management, less detailed and formalized, than the representatives of the strategic planning school (E. Ansoff, G. Mintzberg).

If we consider the above-mentioned approaches to the formation of the competitive strategy of healthcare organization, we will determine HCO groups, in which there is possibility to use these strategies. The Cost Leadership Strategy is effective for multidisciplinary HCOs, which serve large and diverse groups of patients with different pathologies. Because of the great number of similar HCOs and absence of unique medical technologies and possibility to specialize, the hard service standardization and savings on direct and indirect costs will be the only method to reach positive financial result. Strategy admits the exit of HCO outside of its traditional service area (district, city) in other geographic zones. But the patient's travel costs should be smaller than sum of possible savings on the offered service at the same quality of services. Talented doctors can

work in such a hospital or new equipment can be used, it can become a significant profit centre. But then there will be a mix of strategies. In our opinion, such a strategy is more effective for urban hospitals and clinics that traditionally serve a geographical area. Budgetary funding is predominant in applying this strategy. Extra budgetary money can come from auxiliary services or healthcare insurance.

Differentiation allows the construction of a service that is significantly different from general. These differences can be created at the because of the unique or insufficient healthcare service, which is not included in the list of guaranteed volume of healthcare services (the list of the Ministry of Healthcare) or because of the qualitative auxiliary services. It must be understood that the construction of differences requires costs both for their creation and for support. Therefore, combining this strategy with the previous one will be not successful. The introduction of such a strategy involves the provision of services with frequent pathologies, i.e., the presence of mass demand. The quality of the built differences should be such that a potential patient had a desire to pay for it and for the journey, and not go to HCO, which locates close by, but uses the cost leadership strategy. Using such a strategy, HCO wishes to go outside the limits of traditional service zone. Nowadays this strategy is typical for private hospitals in Ukraine. Some small medical centres attract patients from all over the country or open branches in regional centres and cities. Such a strategy can generate significant extra budgetary funding both at the expense of patients and at the expense of health insurance.

Cost Focus strategy assumes focusing on the narrow consumer segment and perfect knowledge of this segment. From the perspective of healthcare organizations, such a strategy is suitable for hospitals that serve "isolated" geographical segments. These are district hospitals, paramedic and obstetric stations. These institutions should form standard health care services. Their quality should be accessible to the general public, and the price should be so attractive that patients would not be willing to visit other hospitals to receive standard health care services. In such HCO is no need and resources to provide highly specialized assistance, and the people with rare pathologies for the area will go for help in the city. On the other side, this strategy is suitable for different dispensaries, which traditionally serve one or another region and provide the same services as similar dispensaries in another region of the country. This strategy, as cost leadership strategy, is based primarily on budget funding.

Differentiation Focus strategy assumes, like the previous one, the presence of a narrow consumer niche. For hospitals, this is probably not a geographical niche, but a group of patients suffering from "related" pathology. This strategy admits the narrow specialization of HCO according some medical sector, not general specialization. The proposed services for this niche should be unique within the country for the quality of clinical and non-clinical parameters. Their uniqueness should be such that patients from Ukraine and other countries have a desire to come and pay for such services. Several specialized private clinics in Ukraine carry out such a strategy. And this strategy can be well used in specialized medical research institutes and republic centres. These HCOs should be leaders in their areas and train doctors with new methods and approaches to treatment and provision of healthcare services. Such probation period of doctors can be another reliable source of income. However, it can neutralize the uniqueness of the leader. In order to support the strategy of differentiation, such leader will have to constantly be on a step-two ahead in his direction. HCOs, pursuing differentiation focus strategy, can be able to generate significant extra budgetary funds.

Besides HCOs that use these four competitive strategies, it is possible to define organizations, which M. Porter calls "stuck in the middle". Because lower cost, differentiation, and focus generate competitive advantages, the chief doctors may be tempted to try to implement everything at the same time. This approach often causes serious problems. At least differentiation involves investment in creating differences, and cost leadership involves optimization of processes and economy. It is difficult to overcome this contradiction. On the other hand, how to set up auxiliary services and staff of HCO – at the economy or the unique innovations? Target on one and the other at the same time will not succeed, because the influence of the human factor is high. Thirdly, these are patients who have certain expectations from HCO – or high-quality service, or low price, or considering the characteristics of their group, geographical or clinical. If the patient is not able to form a certain expectation or in the process of providing the service his hopes is destroyed, the probability of his initial or further treatment will fall. M. Porter points out that the simultaneous realization of two or three strategies is possible, but only under the condition of the organization of two or three independent business units. In our case it will be for HCO.

We propose to interpret M. Porter's generic strategies for HCOs,

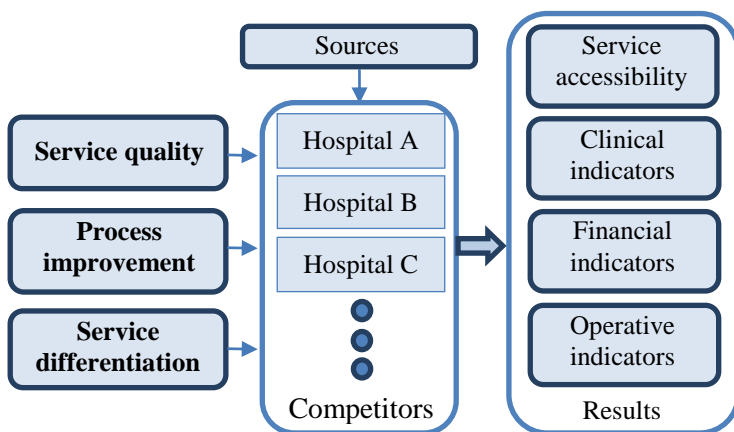


based on the study of the conceptual structure of competition between HCOs at the market of healthcare services, relying on the works of some researchers in this sphere.

Thomson (1994) explores the relations between characteristics of HCO and its competitive strategies, and notes that the quality of care, prices and range of services offered, determine the forms of competition between HCOs [5].

Butler and Leong (2000) research the strategies of health care organizations depending on the operative perspective. They believe that the accent on cost containment in delivering services consistently leads to the best result, and admit that qualitative programmes – necessary component, but is not enough. Flexibility in the differentiation of services is needed after that, when hospitals develop enough competences [6]. In fact, price competition, cost containment, and efficient service delivery together require main thing – improvement in the implementation of the process.

Three components of this structure are shown on the Figure 5.3.



**Figure 5.3 Conceptual structure of competition**

*Source: done by author on the basis of Thomson, R.B. (1994), Butler, T.W., Leong, G.K. (2000)*

This approach corresponds to three generic strategies of M. Porter, which we discussed above: leadership in the expenses, differentiation and focusing, to which will correspond a strategy for improving the process, a strategy for differentiating services, and a leadership strategy for the quality of health services.

The first competitive strategy of the process improvement works within the entire market i.e. corresponds to the cost leadership strategy.

Hospitals that choose this strategy typically standardize their services and improve their effectiveness to achieve cost leadership and asset turnover.

The second competitive strategy for differentiation of healthcare services is used in broad market borders, because hospitals can develop unique service lines to satisfy the individual needs of a wide range of patients.

The third competitive strategy of leadership in quality of health services is tied to the focus strategy, i.e. is a concentration on the establishment of the institution's leadership in a narrow segment of the market through the implementation of specific complex medical procedures.

Consequently, we have considered three basic strategic approaches of the formation of competitive strategy of healthcare organization and defined main strategies that are founded on three competitive advantages – service quality, process improvement, service differentiation.

However, there is a variety of competitive strategies used by organizations in the service market. So, the healthcare in Ukraine is developing.

The transition to the complete economic management and new models of management generates competition, raises the responsibility of chief doctors and supervisory councils for the financial results of work of the HCO. A well-worked strategy can help to the heads of healthcare institutions provide these financial results.

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**FINANCIAL POLICY  
PRIORITIES OF  
LOCAL  
GOVERNMENT  
ORGANS AS A BASIS  
FOR INCREASING  
COMPETITIVENESS  
OF MANAGEMENT  
SUBJECTS**

Within the state financial policy realization in the field of local finances a considerable attention is paid to financial autonomy as the basis of self-government of territorial communities, independence of all levels of local authorities in the performance of their functions. Financial autonomy is a basic form of implementation of the principles of local self-government and is closely connected with the priorities of financial policy of local self-government bodies.

**The financial policy of local self-government bodies** is a system of principles and procedures for various types of financial activities at local (regional) levels organizing by local authorities in order to achieve the goals and objectives for solving the relevant financial resources [1].

The main elements of the financial policy of local self-government bodies are:

- principles – the principles on which the decision of the tasks and the use of the appropriate tools should be based;
- goals, perspectives and current tasks to be solved;
- methods, means and concrete forms of relations organization, with which it is possible to achieve the set purposes;
- the optimal combination of solving current and future tasks;
- selection and placement of personnel that can organize the solution of the tasks;
- risks – potential threats that arise as a result of uncertainty [1].

The financial policy of local self-government bodies includes:

- types of services, the general level of their provision by local governments and differentiated sources of revenues;
- means of financing capital expenditures either at the expense of increasing current income, or through the issuance of debt obligations due to future revenues;
- the system of remuneration, pensions and assistance to be used;
- definition of the maturity, repayment schemes and type of debt obligations that will be used by local governments;
- level of expenditures and taxation subject to changes in the economy of the territory;
- new principles for managing the accumulation process of financial resources for the provision of any services or activities on a contractual basis.

In terms of the main directions of the finance impact on the country's economy, the financial policy of the state includes budget policy, tax policy, investment policy, debt policy, customs policy, monetary policy, etc.

Consider the specifics of the implementation of these components of financial policy within the territorial communities.

**Budget policy** is a system of scientifically substantiated and legally defined principles (functions, principles, methods, tools) and measures to improve the development of relations between different levels of the budget, which is designed to optimally balance the budget parameters, considering budget priorities, the development of the budget sphere and the need to ensure effective implementation by the state and local self-government bodies of its functions [2].

**The budget policy of local self-government bodies** is based on the norms of the Budget Code of Ukraine, other legislative acts, which determine the form of the budget system of the country and its territories, regulate the budget process, etc.

The main security subsystems of the budget policy of local self-government are:

- 1) informational and analytical provision of analysis by implementation of monitoring system of socio-economic state of territories development and implementing the budget policy of local self-government bodies;
- 2) determination of a state budget indicators set, which will be analyzed by its state and level of implementation of budget policy priorities;

3) strategic planning of the budget policy, considering the results of the analysis of the socio-economic territory development, the state budget, the list of threats. The budget policy needs to be changed and adjusted according to the tasks that arise at certain stages of development. There is a need to define strategic and tactical purposes and tasks of budget policy not only for the next year, but also a long-term concept of policy development in the field of local finance.

**Tax policy** is a system of relations between the taxpayer and the state, as well as the strategy of their actions in different economic conditions and economic systems. Tax policy is an integral part of financial policy [2].

State tax policy finds its embodiment in the construction of a particular tax system. The tax systems of the developed countries of the world are characterized by a variety of tax types and taxation objects, as well as the nature of the relationship between taxpayers and tax authorities. However, world practice has developed certain principles and approaches to the construction of the tax system, identified the negative effects of certain taxes, taxation systems. The main principles of the construction of tax systems in the West include the following: horizontal and vertical equality; neutrality of taxes; ease of tax collection for the government; minimal disincentive effect from the introduction of a tax; the complexity of tax payment.

If we consider **tax policy at the local level**, it is a system of relations between local self-government bodies in the person of executive tax bodies and taxpayers and other mandatory payments, which are added when receiving and distributing them within the local budget. The main purpose of the tax policy of local self-government bodies is to strengthen the autonomy of the local budget by increasing its own revenues to cover expenditures related to the implementation of their functions by local self-government bodies.

While developing the tax policy, including at the local level, it is necessary to take into account the functions of taxes, namely:

1) fiscal – is to provide financial resources for processes of implementation of state and local authorities of their functions. The main requirement at performing fiscal functions is the completeness of collection of taxes and other mandatory payments in accordance with the terms specified by the current legislation. It should not be forgotten that fiscal instruments create a complex non-linear impact on economic development processes. Therefore, due to the significant insufficiency of current tax revenues, the governing bodies transform the fiscal function

into future periods through debt instruments;

2) control-distributive – is to provide value proportions in the process of formation and distribution of income by various subjects of economic relations based on establishing "justice" for the collection of taxes. That is, it is necessary to approach taxpayers, taking into account the conditions of their activities. This applies to both individuals and legal entities as well as regions in general. In determining the regional tax policy, special attention is needed to the structure of the region's production, the largest share of production of certain products in terms of tax payments;

3) regulatory – becomes of particular importance in the conditions of modern mixed economies and manifests itself within the state tax regulation of economic development of economic entities and separate territories (on the basis of special tax regimes). As a sub function, a stimulus function implemented through a system of tax benefits and exemptions can be considered;

4) social function is in fact a combination of control and distribution and regulatory functions. At the level of local finances, its essence is that the structure of tax payment and other obligatory payments, especially between the part, which goes to the state budget, and which remains at the local one, should change. However, this requires a clear definition of the total costs of the state, their structure and ways of saving.

In a broad sense, the essence of local self-government bodies tax policy is the formation of budget revenues at the expense of local taxes, which can be divided into two blocks: direct taxes from legal entities and individuals; use of other sources, which include internal loans, intergovernmental transfers. However, the main source of strengthening the autonomy of local budgets remains its own tax potential. In the narrow sense, under the tax policy of local self-government is understood the taxation system, consisting of the system of taxes, the object and subject of taxation, tax rates, the mechanism for their payment and withdrawal, payment terms, etc.

The tax policy of local self-government bodies in achieving the result should have the same direction as the financial policy of local self-government bodies in general. However, it should be noted that in accordance with the norms of internal tax legislation, the number of local taxes, and their fiscal significance significantly limit tax policy instruments of local self-government. Therefore, the main direction of public finance policy in the sphere of local finance is the tendency towards decentralization of power, including by expanding the tax authority of local self-government bodies [3].

**Customs policy** consists of specific taxation instruments and pricing policies, restricting or expanding access to the internal market of goods and services, and encouraging or constraining the export of goods and services. Thus, customs policy in many respects predetermines distribution processes not only between economic entities and the state, but also between economic entities, as well as branches and regions. Customs policy largely depends on budget policies directed to increasing the collection of customs duties and payments [4]. Under Ukrainian legislation, customs policy instruments at the level of territorial communities are practically not applicable, with the exception of priority development or free economic zones.

**Investment policy** is a complex of legal, administrative and economic measures of the state directed on expansion and activation of investment processes [2].

**The investment policy of local self-government bodies** is a system of long-term purposes, main directions and means for providing investment activities in the interests of economic and social development of the territory, one of the main components of the strategy of attracting investment by local self-government [5].

The investment policy of local self-government bodies includes:

- identification and assessment of factors influencing the level of investment activity within the territory;
- elimination of causing of the negative effect of some factors;
- creation of favorable conditions for activating investment processes within the territory;
- optimization of state regulation of investment activity;
- unification of the legal and regulatory framework concerning investment processes within the territory;
- development of strategic and tactical methods of investment activity management.

The main purpose of the investment policy of local self-government bodies is to create conditions and mechanisms for attracting investments into the real economy sector, forming investment priorities and directions of structural adjustment capable of increasing the rates of industrial, scientific and technical and social development.

Considering the specifics of the region's economic development or the development of new territories and the attraction of investment funds for this, the state can create free (special) economic zones, that is, the territories in which the most favorable conditions for the development of entrepreneurship operate. In such administrative-territorial units, the

organization of finance in general, as well as the organization of local finance particularly, the instruments for implementing the financial policy of local self-government, are largely modified.

Local governments in territories with a special economic status and special management bodies of these territories receive from the central government a number of preferences (benefits, privileges), for example, additional tax powers, tax privileges, special customs regime, special currency regime, special investment regime, special mode of implementation payment for the use of land and natural resources, a special pricing regime, a special budget regime, etc.

Of particular importance in the system of preferences to local authorities are the special *budgetary regimes*, which may include expansion of budgetary autonomy, powers for the formation of incomes and implementation of budgetary expenditures. An element of these regimes is sometimes the individual-contractual relations of separate territories with the central authority.

*The currency regime* of territories with a special economic status determines the procedure for using the hard (converted) currency, as well as the particularities of using a national monetary unit or means of payment specifically introduced within territories with a special status. An important feature of this regime is the right to unrestricted transfer of funds earned within a special territory, abroad or to any local bank.

*The customs regime* of territories with a special status, as a rule, involves duty free export and import of products, works and services, the abolition of quantitative import restrictions, quotas and export licenses.

A special tax regime within territories with a special status provides for the total or partial exemption from taxation of subjects of such territories, and their special investment regime is a system of privileges to stimulate the attraction of foreign and national investments.

All these instruments within zones with specific economic conditions should contribute to a more effective implementation of local investment policies, and consequently, of public finance policy in the field of local finance in general.

**Debt policy of local self-government bodies** is a set of measures for the implementation and maintenance of local borrowings, management of local debt in order to solve problems of territorial communities [6]. In the current legislation, borrowing is considered operations related to receiving the budget of funds on terms of repayment, payment and maturity, because of which there are obligations of the state or local self-government to creditors. The total amount of debt (consisting of all issued



and non-repayable debts of the city's territorial community, including debts entering into effect because of granted guarantees for loans, or obligations that arise under the law or contract) forms a *local debt*. Legislation establishes the following main forms of borrowing: issuance of bonds of local loans, as well as the conclusion of agreements on obtaining loans, loans, and credit lines in financial institutions.

Familiarization with the process of borrowing prescribed in normative documents gives an opportunity to draw conclusions about the specifics of the implementation of the debt policy of local self-government bodies in Ukraine:

*on the one hand*, the extraordinary complexity of the procedure for issuing bonds of domestic local loans, as well as other forms of local borrowing. Observance of the requirements is possible only for municipalities of large cities, in the state of which there are enough workers who can prepare the necessary information. For example, the issue of local bonds involves the provision of a sufficiently large list of documents for obtaining a permit, a detailed justification of the prospectus, the compilation of information on the issue of bonds, reporting on the results of placement of bonds and the consequences of bonds repayment;

*on the other hand*, in the current legislation there are no rules concerning the protection of the rights of creditors in case of violation by local governments of debt obligations, responsibility of local governments and specific officials to creditors and the local community for the consequences of local borrowings.

A serious financial obstacle to the implementation of local borrowing is the obligatory credit rating. In order to issue local bond bonds, the issuer is required to provide a rating of securities, and when borrowing in the form of loans, credits, credit lines, the borrower must provide information about the credit rating [6]. The process of obtaining credit ratings is not only an extremely time-consuming process, but rather expensive, which is also burdensome for most local budgets, and for the budgets of small cities, such costs are virtually impossible. However, one should not neglect the fact that the receipt of local government credit ratings also has certain advantages, which are as follows:

creates a positive “image” of a city or other body of local self-government, strengthens trust in them as borrowers;

there are additional opportunities for attraction of investments, in particular foreign ones;

a positive credit history and a financial reputation of a local self-

government body are formed, which will facilitate its release to the financial market in the future;

the main factors of the creditworthiness of the local self-government body are identified, which may be useful for strengthening the financial base of the region as a whole.

It should also be noted that the lack of credit ratings makes it impossible for municipalities to enter the international credit market. The availability of credit ratings creates the necessary preconditions for local governments to attract the financial resources they need to solve their problems.

Considering the specifics of the region's economic development or the development of new territories and the attraction of investment funds for this, the state can create free (special) economic zones, that is, the territories in which the most favorable conditions for the development of entrepreneurship operate. In such administrative-territorial units, the mechanisms of implementation of financial policy of local self-government are substantially modified.

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## CONCLUSION

The practice of modern business development proves that without an effective competitiveness management system it is impossible to ensure the success of economic entities in their struggle for survival, achieve leading market positions and ensure long-term effective functioning in a dynamic competitive environment. The issue of management the competitiveness of economic entities is not fundamentally new for science, since competition has always been and is an immanent component of the economic life of all countries of the market economic system without exception.

The results of the author's research in a collective monograph are devoted to solving the problems of improving the management of competitiveness the economic entities, the theoretical and methodological foundations of the organizational-economic mechanism of management competitiveness through modern directions of development the economic entities and formation of competitive advantages.

The modern market environment imposes a whole range of specific requirements for the management system of economic entities, on which the first and foremost depends efficiency of doing business. One of the main requirements is the successful interaction of an element the economic system in the context of vigorous actions on the part of both the internal and external competitive environment.

Globalization of the world economic space and the intensification of competition formed new economic conditions for the development of economic entities.

The problem of ensuring competitiveness is the main condition for increasing and maintaining the position of economic entities in the domestic and foreign markets. To ensure success in competitive struggle are necessary constant monitoring of markets, positions of economic entities and competitors, needs of regular customers, research of strengths and weaknesses of own economic activity, flexibility and quick response to market changes.

The presented research results in a collective monograph reflect the theoretical and practical aspects of introduction the mechanisms for management of competitiveness the economic entities.

It has been established that the increase of efficiency activity the economic entities in the modern tough market environment is based on the improvement of competitiveness management process.

It was determined that in the conditions of financial crisis the world economy is characterized by a slowdown in GDP growth rates under the influence of such factors as falling demand for products, rising unemployment, lack of financial resources and others. Globalization, internationalization, the rapid development of information and innovative technologies encourage the economic entities to ensure the benefits of their own products on several competitive foundations. Many economic entities achieve strategic goals by changing the structure of production, introducing innovations, increasing productivity on a high-tech and competitive basis.

Economic entities not able to withstand the pace and rhythm of modern production processes leave the market, and the process of economic recovery in the country directly depends on the extent to which they are working to improve technology, conduct benchmarking research and develop competitive strategies. In the conditions of formation a transnational market and toughening of competition it is important for economic entities to both maintain existing and form new competitive advantages based on innovations and innovations. Under new conditions competitors have become more agile, sophisticated, and aggressive than before.

In the new conditions, when consumers on the market have become the dominant force, and competition is not only intensifying, but also becoming diverse, economic entities are forced to reduce prices for goods as much as possible, to ensure high quality of goods and high level of customer service. Now consumers dictate what to produce, how to produce and at what prices to sell the product and what kind of service must be provided in order to meet their requirements. In the new conditions are changing rapidly the characteristics of consumer requirements, so for a number of objective and subjective factors the activities of many economic entities are uncompetitive.

Against the background of traditionally established methods of management the competitiveness of economic entities modern approaches are changing both with the development of the enterprises themselves and the external conditions of their operation. Today, the enterprise has become significantly more complicated in terms of structure the functions, in the style of relations between employees at different levels of management, there is a tendency towards an increase in the number of managers, and the requirements for staff competence have increased. The active behavior of the enterprise in a competitive environment breaks the traditional methods and management style.

Large associations appear and at the same time small firms successfully function.

A new stage in development of the national economy is focused on the fundamental restructuring of sectoral production structures related to its integration into the world economic system. In this regard, government policy today is aimed at creating an appropriate institutional environment that stimulates the development of modernization processes on industrial enterprises and contributes to the creation of rational industry-specific competitive entities.

It is obvious that in the conditions of globalization the economy an effective model of management competitiveness must meet international standards for technical, technological and organizational and managerial indicators, product quality. The main conceptual aspect contributing to the implementation of this process is to develop a methodology and identify effective management tools for the key components of the vital activity of economic entities.

Generalized studies in a collective monograph indicate that management competitiveness of economic entities should be considered as a systematic direction for improving activities aimed at creating and ensuring the achievement of competitive advantages through rational formation, effective use, increase and development of resource potential, introduction of modern innovations, marketing systems and logistics. That is, when management the competitiveness of economic entities a systematic process of making management decisions and turning the resource potential into competitive advantages, which lead to strengthening the position on the market, increasing the number of consumers and their loyalty, ensures sustainable development and profitability in the future.

# **Conceptual aspects management of competitiveness the economic entities**

Collective monograph edited by  
M. Bezpartochnyi, I. Britchenko

# **Koncepcyjne aspekty zarządzania konkurencyjnością podmiotów gospodarczych**

Monografia zbiorowa pod redakcją naukową  
M. Bezpartochnogo, I. Britchenko