PART 3. THE MECHANISMS OF ENSURING ECOLOGICAL, FOOD, TECHNOLOGICAL AND ENERGY SECURITY IN THE DYNAMIC ENVIRONMENT

THEORETICAL PROVISIONS OF ENTERPRISE LOGISTICS AS AN ELEMENT OF THE SYSTEM OF FOOD SAFETY

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The accuracy of concept is the premise of theoretical research. According to the development of modern logistics concept, combining the theory of the agricultural economy, we believe that modern agricultural logistics refers to meet customer demand as the goal, supported by information technology, the use of modern means of logistics, the means of agricultural production and agricultural products, services and related information, from the source to consumption source of organization, control and management, and other economic activities, is an important part of logistics in the whole society. It is by the agricultural production means purchase and the agricultural product production, the harvest, the storage, the transportation, the packing, the circulation processing, the loading and unloading handling, the distribution, the distribution and the information processing and so on a series of operation link composition, and has realized the agricultural production means and the agricultural product preservation, the increment and the organization goal in the entire process.

Differences between modern agricultural logistics and agricultural products circulation:

1. Modern agricultural logistics is not the same as the circulation of agricultural products. Different properties. From the perspective of industry, agricultural logistics is the name of a service industry, and the core activity of modern agricultural logistics is to complete the time and space transfer of agricultural materials and agricultural products. The circulation of agricultural products is a field in which money is used as a medium to exchange agricultural products. It links production and consumption, and is an important link in the process of commercialization of agricultural products. Its core activity is Commodity Exchange.

2. Different coverage. Economic activities usually include production, circulation and consumption activities, while the circulation process of agricultural products also includes commercial flow and logistics of agricultural products. Commercial flow is a kind of transaction with currency as the medium, whose ultimate purpose is to realize the value of products. The circulation of agricultural products starts from the commercial flow, and the value utility is realized through the transfer of the ownership of agricultural products between producers and consumers. Then the use value of agricultural products is realized through the transfer of agricultural products from the supply side to the demand side. And agricultural logistics including agricultural means of production logistics and the logistics of agricultural products, is a kind of additional production process, it overcome the barrier of time and space, provide efficient and rapid means of agricultural production and agricultural products delivery and warehousing services to create the utility of means of agricultural production, agricultural products, including physical flow and information flow. Modern agricultural logistics covers the production, circulation, processing and consumption fields related to agricultural means of production and agricultural products. It can be seen that the circulation of agricultural products is not the whole of modern agricultural logistics. Compared with the circulation of agricultural products, the scope of modern agricultural logistics is broader.

3. Different profit sources. The profit of circulation of agricultural products comes from the price difference of agricultural products, while the profit source of modern agricultural logistics is diversified, including the price difference of agricultural production materials and agricultural products, as well as the value-added generated by the packaging and processing of logistics links [1].

From the perspective of reality, modern agricultural logistics has four specific functions to realize the function of using value.

1. Realize functions. Realize the use value of agricultural means of production and agricultural products through agricultural logistics activities in the operation of agricultural economy.

2 Value-added functions. In the process of agricultural logistics, value-added services such as agricultural production materials and agricultural product classification and packaging, distribution, transportation, storage and management, agricultural product processing, agricultural product demand forecasting, information services, cost control, logistics facilities network and logistics program design are provided to increase the added value of agricultural products.

3. Functions to enhance competitiveness. Modern agricultural logistics can gain competitive advantages by reducing production and circulation costs of agricultural products, providing differentiated logistics services, improving market response speed and customer satisfaction, reducing inventory, shortening production cycle, and increasing the added value of agricultural and sideline products, so as to improve the competitiveness of agricultural logistics enterprises and agricultural products.

4. Regulating function. Due to the imbalance in natural conditions, resource

allocation and technological development, each country and region has absolute or comparative advantages in the production of certain means of agricultural production and agricultural products. Through modern agricultural logistics, agricultural means of production and agricultural products can be exchanged among different regions and countries to meet agricultural production demand and people's demand for diversified consumption of agricultural products, expand the market scope of agricultural products, promote the optimal allocation of agricultural resources, and improve the overall efficiency of agriculture [2].

Developing modern agriculture logistics, strong force mouth of agricultural logistics management is to increase agricultural production, agricultural production, market reaction speed, saving transaction costs, reduce inventory, shorten the production cycle, improve the service level, improve product quality, increase product sales profit, the maximum to meet customer requirements and the need of society.

Modern agricultural logistics management is the scientific management of the logistics activities in the three stages of agricultural pre-production, production and post-production, namely the upstream, the middle and the downstream, so as to achieve the satisfactory service level with the lowest agricultural logistics cost.

The main contents of modern agricultural logistics management are: logistics operation management, logistics cost management, logistics service management, logistics quality management, logistics information management [3].

Modern agricultural supply chain is based on the analysis, research the meaning and characteristics of modern agriculture, characteristic and the law of development is put forward on the basis of a comprehensive concept, it is through the control of information flow, logistics and cash flow, from the production of agricultural production materials to the raw material and processing of agricultural products agricultural production, finally put the products sent to the hands of consumers by the sales network, formed by the agricultural materials suppliers, farmers, agricultural production, agricultural products processing enterprises, wholesalers, retailers, final consumers become an organic whole repeatedly function nets chain structure. It can be seen that modern agricultural supply chain is a network chain composed of various entities and information. These entities include farmers, agricultural companies, subsidiaries, farms, processing plants, manufacturing plants, warehouses, external suppliers, transportation companies, distribution centers, retailers and consumers. Agricultural logistics, capital flow and information flow on the network chain.

Modern agricultural supply chain management, as a kind of integrated management of «vertical and horizontal integration», can make up for the defects of traditional agricultural logistics management mode to the greatest extent and bring competitive cost advantage, space-time advantage and overall advantage [4].

First of all, in the modern agricultural supply chain management, is the strategic cooperation relationship between individual nodes, has the characteristics of consistent interests, and information sharing, each member will adopt advanced technology and equipment, scientific method, play to their respective core ability,

reduce duplication of work and the waste of resources, reduce the uncertainty of demand forecast deviation and inventory, increase inventory turns, thus effectively reduce agricultural logistics cost, create competitive cost advantages.

Second, through the selection of agricultural supply chain members, form an alliance to each member enterprises, give full play to its own core competence to achieve mutual complementary advantages, optimize the agricultural logistics and information flow of circulation channels, to maximize the shorten the response time and changing market demand, improve the delivery reliability and customer service, create the competitive advantage of space and time.

Third, the establishment of the strategic collaboration relationship of the supply chain reflects the integration and optimization of internal and external resources of the enterprise. It emphasizes that the enterprise should focus on the key business to achieve the optimization of the overall efficiency of the supply chain, and ultimately achieve the goal of win-win for all the members of the supply chain and create the overall competitive advantage [5].

Green logistics refers to the process of logistics to curb the harm of logistics to the environment at the same time, to achieve the purification of logistics environment, logistics resources to get the most full use. Green logistics is a multi-level concept, which not only includes enterprises' green logistics activities, but also includes the social management, regulation and control of green logistics activities.

Generally speaking, modern agricultural green logistics includes the following contents: green storage and transportation, green packaging, green circulation processing, green handling, green information collection and management, establish recycling logistics, goal of agricultural green logistics [6].

Green modern agricultural logistics is to develop green logistics, green civilization as the direction, to environmental protection as the goal, directly or indirectly contribute to the environmental protection of agricultural logistics pollution abatement. First, we will guide farmers and agricultural enterprises to develop green production and produce pollution-free agricultural products. Second, through the scientific logistics design, management and implementation, improve the agricultural materials and agricultural products transportation, distribution rationalization, optimization (such as joint distribution), transport packaging reuse, sales packaging pollution-free, easy to handle, reduce the pollution of agricultural products and the environment [7].

Career, etc. Modern agricultural logistics industry is composed of some logistics economic entities in the national economy, mainly including the following levels:

1. Agricultural logistics industry. This industry is composed of various transportation lines, the intersection and node of transportation lines, and the system of tally terminals. It is the infrastructure provided for the operation of agricultural logistics system and a «platform» as the foundation. Its main industries include railway, highway, water transport, air transport, warehousing, etc. The main logistics facilities are stations, freight yards, ports, docks, airports, railways,

highways, warehouses, etc. Agricultural logistics foundation industry is the most important component of agricultural logistics industry, which not only directly reflects a country's economic development level, reflects a country's strength, but also other agricultural logistics industry and even other economic forms of the national economy rely on the existence of the important foundation.

2. Logistics system industry. This industry is an organic combination of computer system technology and communication technology in the field of agricultural logistics. Information network technology is the lifeline of modern agricultural logistics. Through information transmission, resources can be Shared among suppliers of agricultural production materials, farmers and agricultural production materials, wholesalers, retailers and final consumers of agricultural products, and all links of agricultural logistics can be tracked in real time, effectively controlled and managed in the whole process [8].

3. Proprietary logistics. This refers to the self-run logistics of agricultural materials production enterprises, agricultural products production enterprises, large production and marketing enterprises, agricultural products processing enterprises and commercial enterprises, which may also be some of the industries engaged in third-party agricultural logistics activities. Self-run logistics focuses on the establishment of internal logistics system, which includes independent logistics enterprises established by agricultural production enterprises and circulation enterprises for their own production or business activities, especially distribution centers, distribution systems and circulation and processing systems. The self-run logistics industry partly depends on the social logistics platform, and for large-scale giant enterprises, they often build their own logistics platform.

4. Third-party agricultural logistics. The third party agricultural logistics industry is an industry in which the agent shipper provides the agent service of agricultural logistics to the shipper. The third party agricultural logistics is the direction of socialized division of labor and modern agricultural logistics. The agency role of the third-party agricultural logistics is the systematic and whole-process agency of all agricultural logistics activities. Such agency activities need to operate on the logistics platform, so the level of agency activities largely depends on the logistics platform. Agricultural logistics consulting industry.

5. The agricultural logistics consultation industry. The agricultural logistics consultation industry is made for agricultural logistics service enterprises, agricultural materials production enterprises, farmers and agricultural production enterprises to provide logistics services enterprises and institutions, specific business including agricultural logistics business management diagnosis, agricultural logistics market research and analysis, the third party agricultural logistics operation mode, agricultural logistics park or agricultural logistics center location selection, planning and implementation, agricultural logistics equipment, agricultural logistics engineering supervision, the agricultural supply chain management process optimization, agricultural logistics operation, agricultural

logistics information technology, agricultural logistics enterprise financial management, logistics enterprise marketing management consulting, supply chain, customs affairs Consult, etc. Due to the characteristics of agricultural logistics, compared with general management consulting, agricultural logistics management consulting is more professional, more complex and involves a wider range [9].

Taking the first batch of leading agricultural product processing enterprises in China as the object, He Feng made a preliminary study on the basic situation and development trend of agribusiness supply chain practice in China, and emphatically analyzed five important driving forces and general mechanism of promoting agribusiness supply chain practice [10].

Summary. Agricultural enterprise logistics generally refers to various activities of agricultural enterprises from material procurement to the formation of agricultural products, from the storage of agricultural products, the circulation and processing of agricultural products to the sales of agricultural products. The logistics management of agricultural enterprises studied in this paper mainly refers to a series of material movements taking the sales of agricultural products as the center and the management activities of elements and functions carried out by relevant departments in the process of various activities. It involves the transportation, storage, processing, packaging, handling, distribution and information processing of agricultural materials and agricultural products. Agricultural enterprise logistics is not isolated, because of the characteristics of agricultural production, it must be closely related to rural logistics and the circulation of agricultural products.

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THE ANALYSIS OF THE POSSIBLE EFFECTS OF THE FOURTH INDUSTRIAL REVOLUTION IN TERMS OF THE HUNGARIAN BUDGET EXPENSES

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The Western civilization lived in three industrial revolution so far. In the wake of steam engines and automatization now a brand new, fourth industrial revolution takes place. The essence of this new industrial revolution is that the physical machines and objects all connects to an informational system, while the real economy integrates into a huge and intelligent informational system. The Industry 4.0 is such a conception, which reacts to the challenges of the recent revolution, which is mainly conducted through full digitalization of the industrial processes. This is not just about the penetration of technology, but the paradigmatic change of business processes and change of the role of the state. Industry 4.0 is what Hungary and Europe need (Strange, Zucchella 2017).

It is important to highlight that among the cultural factors human attitude and mentality significantly impact digital development. This is the reason why the concept of digital revolution cannot be interpreted in itself in a Hungarian relation. For this, the stronger role of the state is needed and for this, it is important for the national budget to retain its stable position after the fourth industrial revolution. In Hungary, if we consider different sectors of industry, we can see that automatization can work in the way just like in the sector of the automotive industry. It is conducted via the presence of two-three big, foreigner, financially strong companies that raises the sector. An interior company will never be that successful to develop without a significant proportion of subsidy. The basic research and developments are lacking (Szóka 2015). In the pharmaceutical industry, the Richter, ÉGISZ, and Chinoin promote the development with a foreigner background and owner too. In the chemical industry, most of the competency and research work derive from Hungarians, therefore a big proportion of the GDP is created within the country but the stadium of manufacturing and commerce is the authority of foreigners. This is not the trend in the automotive industry but there is an endeavour to raise the rates of interior research work and competency, to keep a bigger amount of value-added within the country. In the course of recognizing this, Hungary created a separate item

of expenditure for the Industry 4.0 technologies and the support of 5-25 companies and research centres. This measure was conducted for a HUF 1.5 billion allocation.

The fourth industrial revolution in Hungary and its national budget effects. The phrase „Industry 4.0" indicates the fourth industrial revolution. This process will generate the total transformation of our economic life, the strengthening intertexture of informational technology and automatization, and as a result of this, the total revolution of manufacturing processes. With the help of M2M (Machine to Machine), machines will be able to carry out the control of more complex tasks, the basic of which is that they have the ability to communicate with each other with human assistance. The extent of productivity can significantly increase as a result. Automation will be able to cover almost the full spectrum of economic processes (Szóka 2019).

With the spread of automation, the proportion of live labour will be reduced to some extent that is difficult to predict. As a result, countries with high tax burdens on labour will have a large loss of tax and a loss of tax revenue as a result of the fall in the amount of labour. Therefore, when examining the impact of the Fourth Industrial Revolution on Hungarian public finances and the expenditure side, it is first necessary to review the structure of the tax system. (Kenyeres, 2016)

Automation reduces the amount of live work, but not the wage bill, of more skilled, better paid work comes to the fore. The Hungarian tax system has rightly shifted towards sales taxes, because it encourages individual work performance, and on the other hand, even if the labour input really is significantly lower, the state will still have enough revenue. In addition, by broadening the circle of taxpayers (burden sharing), advanced technology operators, who are now in the forefront of being taxed, will become revenue generators for the state (Lentner 2017).

Reform of the tax system in Hungary after the crisis of 2008 with a tendency to reduce the tax burden on labour. In the period of 2004-2015, there were two different cycles during the period: the first cycle is between 2004 and 2008, when the rate of labour taxes is increasing, and the rate of consumption taxes is decreasing (Kovács, Szóka, Varga 2019). At that time, however, the trend was reversed and it is clear from 2009 to 2015 that the proportion of sales-to-consumption taxes rose from around 36% in 2008 to 45-46%, while the proportion of labour taxes rose to 52% in 2008 from around 45-46% of total tax revenue by the end of the period (Varga 2017).

The transformation of governmental expenditures in the EU as a result of Industry 4.0. Significant transformations occurred in the structure of taxation in the European Union in recent years. In the point of labour taxes, an integrated tendency can be observed. In the case, which is the most important to us, the level of labour tax is high in Germany, although it shows a decreasing tendency (Takács, 2014). The sums that derive from the German personal income tax construct the core of the German government tax revenue, besides the incomes of the value-added tax. Being aware of this fact, the question arises as to how the income side of the German national budget can be maintained with the mass spread of the future automation. The charts below are to indicate the tendencies in the European Union. In the

territory of EU-28, the biggest proportion of the national budget was constituted by the social transfers that were in the forms of cash or in kind in 2017 (see 1. figure). The social transfers (the social benefits and the market production, purchased in kind social transfers) represented the 45.1% of the total expenditure in the EU-28, while 47.9% in the euro area. The allowance of the employees was 21.7% of the national budget in the case of EU-28, while 20.9% in the case of the euro area.

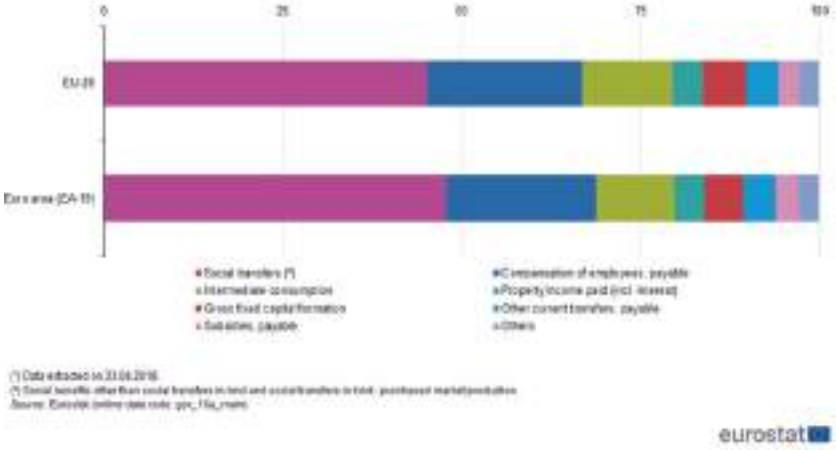


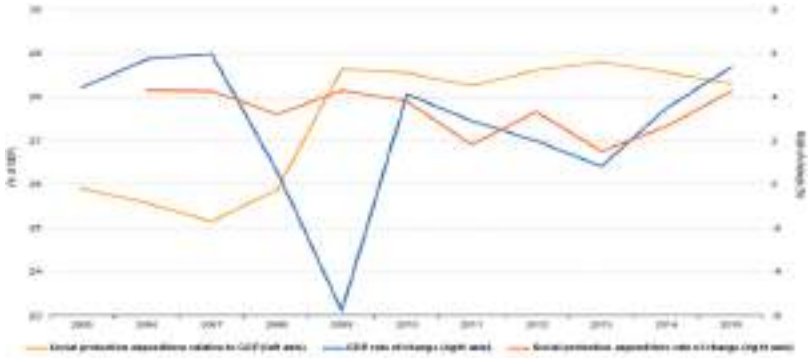
Fig. 1. The composition of the total amount of expenditures in the year 2017 (In the percentage of the total expenditure)
Source: https://ec.europa.eu/eurostat/statistics-explained/index.php/Government_finance_statistics/hu

Social costs related to human work and perceived as the impact of live work make a significant contribution to the structural transformation of the labour market. As a result, GDP in the EU-28 increased by 6.0% in 2007 (compared to the previous year), remained almost unchanged in 2008, and then drastically decreased in 2009, while social protection expenditure continued to increase at a relatively stable pace throughout the period 2006-2016. As such, the impact of the global financial and economic crisis was clearly evident as expenditure on social protection as a percentage of GDP in the EU-27 increased by 0.7 percentage points between 2007 and 2008 and by another 2.8 points between 2008 and 2009.

György Matolcsy, president of the Central Bank (Pesuth, 2014) also ascertained that the Hungarian taxation system was the most progressive in terms of labour taxes in the region. This type of taxation system (with the large-scale of unemployment benefit) led the Hungarian labour market activity rate to be one of the lowest ones in the European Union. Therefore, in our country the taxation is featured by the moderation of labour taxes in this respect, therefore, automation makes the

Hungarian tax system less vulnerable, so public finances are less exposed to the processes. (Varga et al., 2018, Lentner, 2018)

The rate increase in 2009 reflected a 4.3% increase in social protection expenditure, while GDP fell by 5.8%. In 2010 and 2011, the ratio of social protection expenditure to GDP declined by 0.1 and 0.3 percentage points, as social protection expenditure grew at a slower rate than GDP. In 2012, this trend reversed and social protection expenditure also grew faster than GDP in 2013, which may have been offset by slower social protection expenditure growth in the following year. In 2015, EU social protection expenditure grew by 4.3% (excluding Poland), offset by slightly faster economic growth (5.4%; also excluding Poland). The ratio of social protection expenditure to GDP decreased by 0.3 points to 28.



Fig, 2. Tax returns, EU-28, 2005-2015 (in the percentage of GDP%, in the change of social expenditures and GDP)

Source: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Social_protection_statistics

However, with the above-mentioned increase in government expenditure on labor, there is a decrease in social security revenues. Revenue from taxes and social contributions can be divided into three main categories or types: indirect taxes (such as value added tax - VAT), defined as taxes on production and imports, and direct taxes, which consist of current taxes on income and wealth; third, net social security contributions. The difference between direct and indirect taxes, such as VAT, is that in the case of direct taxes, the burden of payment cannot easily be passed on to other parties (Kenyeres et al. 2019).

The potential effect of of Industry 4.0 on the revenues of Hungarian national budget and its expenditures. According to the data of the CSO, the amount of social insurance revenue in Hungary in 2015 was HUF 4,489 billion. This amount can be treated as the basis for the burden of live labour. To this must be added the personal income tax amount of HUF 1,689 billion and the total wage tax and staff tax of HUF 200 billion. This is nearly 20% (18.5%) of GDP in 2015 (HUF 34,324

billion). To this amount, we can add the amount of holiday pay (the machines do not go on holiday), the amount of sick pay (the machines do not get sick even if they fail, repairs can typically be done quickly by proper techniques) and family support amounts. In particular, the amount of leave, the amount of the first 15 days of sickness benefit, one third of the amount of sickness benefit in the first 15 days and the amount of disability pensions (Varga et al. 2018).

Thus, it can be stated that based on the direct costs of the HUF 6,378 billion live workload in Hungary in 2015, almost one third of this, or HUF 2,105 billion, will be generated. This is a nearly 6% reduction in the workload of 2015 GDP. With respect to 2019, as outlined above, this new trend requires an appropriate new tax base, revenue source. In addition, automation reduces the unit cost of products. This entails a reduction in the amount of value added tax due if the sales price of the products is reduced. The burden of open or covert unemployment, which can be replaced by machine labour and is usually created by the release of mechanical human labour, can and should be offset by creating new types of tax revenue opportunities in the future. These new taxes will not impose a burden on live labour, but will either create a new tax burden on consumption or turnover or somehow tax the automation process (Varga et al. 2018).

In contrast, the central budget included HUF 125,747 million in income support and supplementary social benefits in 2015, which did not increase until 2019, as the same amount was planned, which meant an actual expenditure of HUF 428,620 million by August. As can be seen from the above, in Hungary, with the decline in tax revenues from labour and employment, the costs of the central budget are increasing due to the aging society. However, the labour force needed to increase production is not being replaced, for example by demographic decline. By way of example, according to population data, in December 2018, 7,184 children were born, 5.3% less than in the same month in 2017. At the same time, the number of deaths increased, 12,188, which is 5.7% more than in December 2017. The natural population decline due to the balance of births and deaths was 5,004, an increase of 27% compared to the same month of 2017 (CSO: Economy and Society, 2018/12).

The programme Industry 4.0. According to Pricewaterhouse Coopers (PwC) Global Industry 4.0 Survey 2018, Germany and Japan are currently the most advanced in the field of industrial digitalisation and IT for internal processes and horizontal value chain relationships. support. PwC estimates that $ 907 billion will be invested in industry by 2020, mainly in software applications including Manufacturing Execution Systems (MES), sensors and other digital, primarily networking and connectivity tools. This was confirmed by other surveys in 2018, such as Industry 4.0 - An international comparison commissioned by Huawei or Acatech's «Industry 4.0 in a Global Context» report.

For the first time in Hungary in 2019, Act XVII of Act L of 2018 on the Central Budget of Hungary 2019 The chapter of the Ministry of Innovation and Technology included a chapter-specific appropriation of the Industry 4.0 program, which had a

budget of HUF 1.5 billion. The program aims to provide the Government with a tool to implement Industry 4.0's Industrial Development Strategy, which, in line with real market needs and in line with international market trends, supports industry-driven digital transformation of smart devices, in line with the Irinyi Plan.

The program sought to support the digitization transformation of the manufacturing and ICT services sectors based on smart devices, in line with the objectives set out in the Irinyi Plan. The program aims to contribute to the innovative re-industrialization of Hungary, primarily through the qualitative renewal of small and medium-sized enterprises (hereinafter referred to as SMEs) and the improvement of their competitiveness by supporting about 5 to 25 Hungarian enterprises. This appropriation is intended to support development, cooperation and networks in the following areas in the framework of Industry 4.0:

a) Adaptation and widespread adoption of technologies to enhance the efficiency of business and social processes to support the design and implementation of Industry 4.0 systems, support for multidisciplinary collaboration in the technical, IT, economics and human sciences, professional and market researching current, relevant and forward-looking solutions to meet its challenges, building and exploiting industrial links, and providing ongoing information to academia and academia in the areas studied

b) Further development of cloud-based technologies, utilization of augmented reality in manufacturing and logistics processes for maintenance, remote assistance, (fault-cause analysis by machine learning methods, predictive maintenance), rapid prototype production, customer involvement in prototyping, simultaneous design, and production visualization MES - Manufacturing Execution System, supply chain collaboration (through production plans, inventory data sharing), optimization of supply chain, inventory and production planning, production of optimal inventory, procurement and production plans to meet market needs (real-time collection of production and resource data) and Show). Development and implementation of intelligent mechatronic systems (autonomous robots; autonomous vehicles (AGV) in manufacturing and logistics, robot assisted manufacturing, collaborative robots small series and custom manufacturing solutions)

Reflecting global change and the rise of machine work, Canada's Prime Minister Justin Trudeau, 23, has already included in the 2017 budget a line for innovation and skills, resulting in unemployment stemming from the development of the innovation economy, also concentrate. Based on this, he set aside $ 132,4 million in funding over a four-year period to maintain the employment insurance benefit system. (https://www.quora.com/What-should-governments-do-to-prepare-for-the-technological-automation-of-human-jobs.

Following the example of developed countries, it is encouraging that the Hungarian government has already recognized in 2018 that the fourth industrial revolution will also change the structure of Hungarian employment. It also has a strong influence on central government finances. Contrary to the international

examples mentioned above, the Hungarian government does not seek to remedy the employment problems that may arise during the expected transformation, which seems to be aimed not at drastically increasing social spending but at ensuring, with the help of employers, disadvantage the employee. In addition, it does not seek to cover rising social costs by increasing tax revenues on labor but by promoting value added tax revenues on consumption.

We can conclude that the named item expenditure is a sign of the fact that the Hungarian legislation recognized the significance of the fourth industrial revolution.

It seems to be proven that technological transformation, digitalization and automation exercise a significant effect on the national budget of a state, which requires the increase of the role of the state, state-governmental measures and reflections in my point of view.

The effect of the fourth industrial revolution on live labour and the structure of labour market is unquestionable. Its transformation has a direct effect on the sustainability of the Hungarian public finances and on the operation of the state. The trends on the source and release pages analyzed above require continuous further analysis. However, the Hungarian state closely follows the central measures of the EU and the developed western world.

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INTERDEPENDENCE OF FUNCTIONS AND METHODS OF INNOVATIVE MANAGEMENT IN THE PROCESS OF MANAGEMENT BY ACTIVITY BY INDUSTRIAL ENTERPRISE

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On the today's stage of development industrial enterprises are characterized by worsening of results of activity, that it contingently the increase of number of the crisis phenomena, complication of socio-economic development of country. On such conditions the number of enterprises grows which use an out-of-date equipment, produce the products of not high quality. Therefore there is a requirement in forming of ways of adjusting of activity of industrial enterprises, id est activations of innovative activity. Complication of process of adjusting of innovative activity on enterprises is explained by absence of effective methods of management of industrial enterprises activity [1, p. 418-427]. The variety of activity from a management innovative processes can be presented as certain functions in a chain: idea → scientific researches → of development → of planning → production → realization of innovations. Every function is sent to the decision of specific, various and difficult problems of co-operation between separate subdivisions which require realization of large complex of concrete measures. Accordingly, it is expedient to investigate the place of functions and methods of innovative management in the process of management activity an industrial enterprise.

Over 20 public (basic, operating-rooms) functions, what productions related to the recurrence, are distinguished in most sources. General to the function name having regard to that they are inherent to any sphere of activity (, beginning from a production, completing production distribution. Will name operating-rooms of function got as they answer the certain stage of administrative activity.

A word «function» in translation from Latin means «realization, implementation». Shcheblykina I. O., Hrybova D. V. in the train aid of «management Basis» examine management functions as types of purposeful activity in relation to the guided object, predefined by co-operation and division of labor among a managerial staff [2].

Zakharchenko V. I., Korsikova N. M., Merkulov M. M. examined the functions of innovative management as relatively the separated direction of administrative

activity, that allows to carry out influence on an innovative process [3, p. 116].

The task of management of enterprises activity is influence on workers with the aim of providing of his efficiency and effectiveness through the functions of management and forming of methods and receptions, that is why scientist Aleinikova O. V. [4], Babiy I. V. [9], Bondar O. V. [5], Burdenyuk I. I. [6], Glebova A. O. [5], Zakonnova A. A. [7], Zakharchenko V. I. [3], Kapinos G. I. [9], Komarnitskaya N. M. [10], Korsikova N. M. [3], Marmaza O. I. [8], Merkulov M. M. [3], Pritula N. M. [4], Chernyak N. I. [6] investigated the methodical going is near determination of essence, classification and use of functions and methods in the process of management of enterprises activity. But the not decided is remained by questions in relation to their of them close intercommunication and influence on efficiency of activity of enterprises.

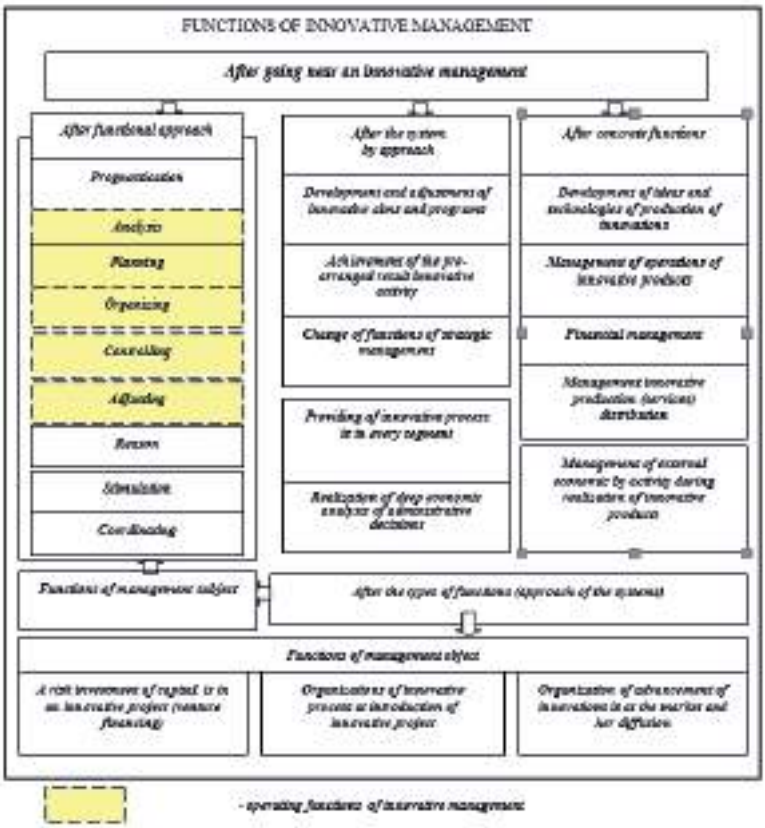

Fig. 1. Basic functions of innovative management are after different approaches
Source: it is built after materials [7, p.116; 11, p. 67-68; 6; 12]

In professional and educational sources for each of going near understanding of innovative management (fig. 1) the different are offered classifications of their functions are on different criteria and signs.

As a result of change of the state of affairs of investment market, financial state of firm, miscalculations in an innovative portfolio and other factors construction actual and expected efficiency of separate innovative projects (financial instruments) can appear far below from a calculation.

In this case made decision about an exit from such innovative projects (sale of separate financial instruments) and the forms of this exit (realization, corporatization, and others like that) are determined.

Accordingly adjustments of innovative brief-case comes true by the selection of other innovative projects or financial instruments, where the freed capital is reinvested [5, p. 23-30].

Distinguish two types of functions of management of innovations:

1) functions of subject are managements which partly duplicate functions after functional approach (fig. 1 and fig. 2);

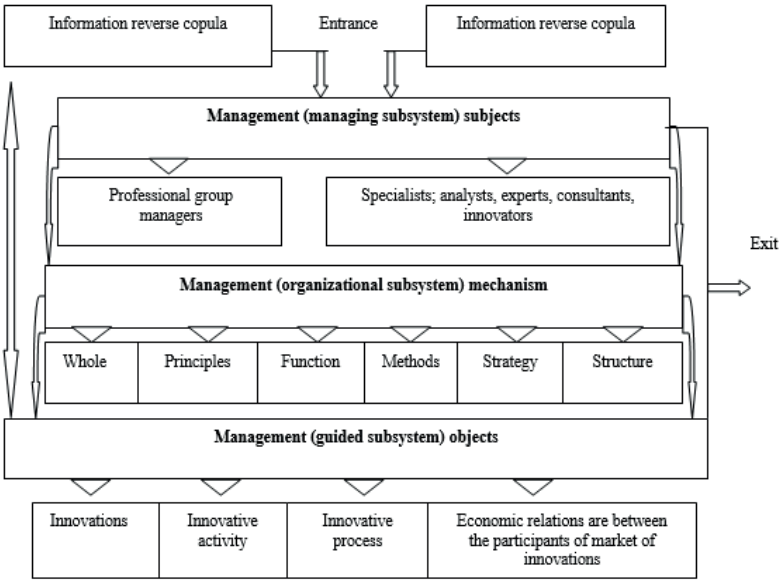

Fig. 2. General chart to the innovative management according to approach of the systems [4, p.9]

2) functions of management object: risk investment of capital in an innovative project;

3) organization of innovative process at introduction of innovative project and

organization of advancement of innovations are at the market and her diffusion.

The function of risk investment of capital clearly shows up in organization of the venture financing of investments at the market of innovations. The investment of capital in a new product or in a new operation is always related to the vagueness, with an enormous risk. Thus, it always comes true through creation of innovative venture funds.

The table of contents of function of organization of innovative process will be rational organization of innovative activity in relation to creation, realization and distribution of new product or new favour [13, p. 69].

Two major categories of management - functions and methods are dialectical constrained inter se. The basic task of functions to the management, as directions of administrative activity, forming of management methods is, id est methods and receptions of influence on workers (fig. 3).

A term «method» results from Greek «methodos», that in translation means a «way to something», id est knowledge is about that, by what methods, in what sequence it is needed to decide those or other tasks.

Management methods are methods and receptions of influence of the sensor-based system on guided on different levels and management (enterprise, subdivision, service and others like that) links [14].

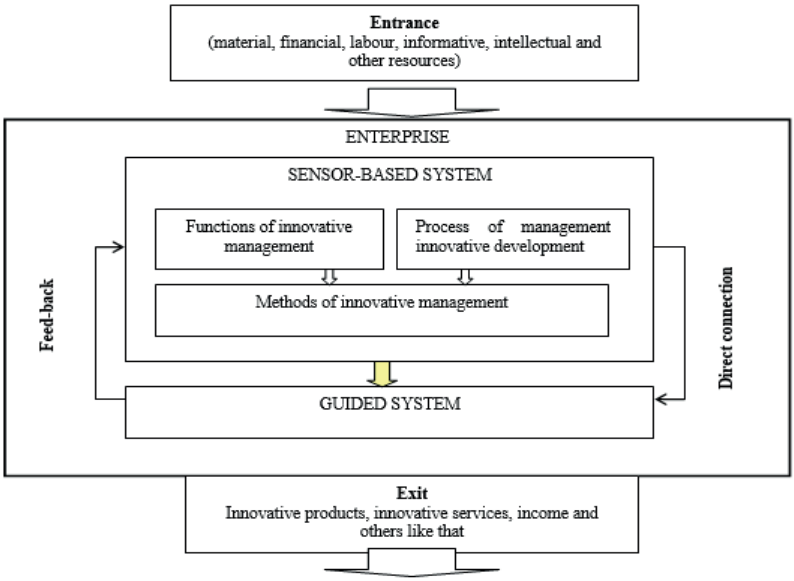

Fig 3. Place of to of the methods of innovative management in the process of management

Source: [7] with an authorial revision

In practice management methods are the aggregate of methods and receptions of influence on the collective of workers and separate performers with the aim of implementation of mission of organization and achievement of her aims.

They are the managements (firm, department, subdivision and others like that) sent to the object, id est on the workers of different types of activity, their maintenance appears through the features of receptions and methods of influence, and a primary objective is providing of harmony, organic combination of individual, collective and public interests[14].

In foreign literature from a management management methods equate with the methods of financial and economic or organizational work, methods of record-keeping, commercial activity, marketing [7].

An of management uses both general methods (economic, social psychological, administrative- legal, scientific et al), which apply in all spheres to activity and special, which represent the specific of activity.

Management methods classify on different signs [14]: by direction of influence on the guided object; by the form of influence; by character of influence and others like that.

After direction of influence on the guided object distinguish: methods of direct influence – directly influence on the guided system (orders, orders, pointing, instructions, positions, tariffs and others like that); methods of indirect influence - create terms for influence on the guided system of management (methods of selection of collective on different signs, methods of forming of psychological climate in a collective and others like that).

On of a form influence: quantitative methods (calculations, estimates, prices, budget, wage incentives and others like that); high – quality methods (pointing, moral stimuli, methods of selection of collective is after psychical physiology factors).

By the nature of influence:

– the technological methods of management foresee influence on workers through documents, which determine technology of production and economic processes. Technological documents belong to them; designer documents [14];

– economic methods are an aggregate of receptions and facilities, which provide the use of objective economic laws, conformities to law and interests in activity of organization on the basis of commodity-money relationships with the aim of achievement of her aims. Aims and general line of behavior, within the limits of which he searches the most acceptable to him ways of their achievement independently, are set only a performer. Initiative is advantageous not only for a worker but also for an enterprise, timely and high-quality implementation of tasks is rewarded, foremost as cash disbursements [9];

– social psychological methods are methods of influence on the collectives of people, which are based on drawing on scientific accomplishments of social and general psychology in the management of operations. Conceptually these methods are taken to two basic directions: 1) forming of favourable morally-psychological

climate in a collective; 2) exposures and to developing individual flairs each, that allow to provide maximal self-realization of personality in an operating process. They find a display in the social planning, moral stimulation of forming of collectives and creation of favourable socialpsychological climate in them;

– administrative methods – It methods, which will be realized as concrete no alternative tasks which assume minimum independence of performer, as a result all responsibility depends upon a leader which gives order. These methods were widely used on industrial enterprises and in the field of services at command-administrative control system by an economy in our country [9];

– organizational methods are an aggregate of facilities and receptions of direct managing influence on organizational relations between workers in the process of functioning of the system with the aim of management her state in accordance with terms which change. Essence of these methods consists in that for realization of any activity the system at first must be optimally organized: projected, aimed, regulated, rationed, provided with instructions which fix the rules of implementation of works and behavior of personnel. Organizational methods are preceded to activity, create necessary terms for her, and thus is passive [9].

As all methods of management are directly related to his functions and management stages and sent to innovative development (ID), it is expedient to consider classification of methods exactly in such context (тabl. 1).

Table 1

Basic methods of innovative management are depending on functions and management stages

Management functions	Management methods
Management methods are after functional approach	
prognostication	facts graphic are methods which are based on fact sheets (extrapolations, method of cross-correlation-regressive analysis) and heuristic - foresee realization of prognosis developments by means of logical receptions (intuitional methods are a questionnaire, method of «brainstorming»; analytical methods are a method of morphological analy-sis, method of optimization and others like that) [15]
forming of innovative aims	method of construction of «tree of aims» [8]
planning	balance, normative, economic and mathematical, analytical; programmatic-having a special purpose method; calculation-structural method, trial-statistical method, method of optimization and others like that [15]
organizationally	organizationally-prescriptive methods: order, order, pointing and instructions [7]
analysis	logical methods of treatment of information, methods of the determined factor analysis, methods of stochastic factor analysis, methods of optimization deci-sion of economic tasks [9]; comparative, statistical analysis, method of expert estima-tions [11, p.70]

adjusting	comparative analysis of the state of management object, diagnostics
stimulation	-direct economic stimuli: payment of labour, bonus for rationalization, participating in incomes, payment for preparation and retraining of shots; -indirect economic stimuli: additional charge for experience, favourable services; -not money stimuli: assistance to initiative, creative character of labour.
monitoring	analysis of consumers, analysis of terms of competition, analysis of scientific and technical potential of enterprise, market of commodities-innovations analysis[16, c.97]
Management methods are depending on the stages of management innovative development of enterprise [9]	
Management stage	Management methods
Analysis external internal environ-ment	method of segmentation, methods of analysis and statistical estimation, PEST of -аналіз, SWOT of -аналіз, method of construction of matrix of possibilities, methods of comparative analysis
Forming of aims and tasks of ID	methods of analogies, expert methods; methods of active search, cerebral assault, method of Delfi, methods of passive search (marketing researches, suggestions of consumers, developers and inventors)
Development of strategies of ID	method of scenario of development and expert estimations, extrapolation of tenden-cies, simulation models and designs, methods of the dynamic programming
Determination of innov. to potential	methods of theory of supplies, theory of mass service (turns), method of brainstorm-ing, method of break, methods of cost analysis
Calculation of efficiency of ID	methods of estimation of efficiency of investment projects; to the break-even of projects analysis, methods of analysis of sensitiveness of projects
Development and acceptance of development of projects are in relation to ID	methods of regressive analysis, expert methods, methods of analysis of the systems, operatively-calendar management, analysis of rejections

Source: materials are systematized [6, 7, 8, 11, 12, 16]

The methods of analysis of the systems of problems which arise up are widely used in practice of management innovations; probability theory; design of processes of making decision; situatioonal approach, which gives an opportunity of the creative use of adequate situation, scientific receptions of management[11, p. 22].

It is set that traditional functions are necessary for adjusting of development of innovative activity of industrial enterprises in accordance with a public innovative policy, assists the mechanism of adjusting of activity, present legislative base, favourableness of their development, normative providing of this activity on an enterprise and their inhibition to the use [17] receptions of management and management functions, that allows to the industrial enterprises to work high-efficiency because in the conditions of present time their activity is characterized by worsening of financial results, decline of level of competitiveness, loss of leading

position both on internal and on external markets, by the low level of security from the threats of market environment, by absence of the proper level of development of economic security.

Management methods are formed in a next sequence:

- evaluation of situation and put tasks with the aim of determination of basic directions and types of influence;
- choice of composition of methods and ground of their high-quality and quantitative parameters;
- providing of terms for effective application of select methods, that forms a technique and technology of administrative work in end-point [14].

Thus, pre-condition of forming of effective management of industrial enterprises innovative activity is determination of methods, principles, functions, which it is expedient to adhere to during their realization which will provide the achievement of the put aim and expected results of activity. To the basic functions it was taken: control; motivations; regulative; planning; prognostication; planning; organizations; forming of innovative aims, analysis, stimulant; to monitoring. Among principles will mark: to expediency; to authenticity; to availability of information; to validity; adaptations; to effectiveness; to purposefulness; sequences; to the system; to priority; to continuity; to scientific character; orientations are on end-point; to the complexity.

At the same time, all methods of management must function not as separate, separate and independent methods of influence, but as integral system which consists of interactive and inter related elements. Methods which are used in the process of management of enterprises activity improve constantly, they are not determined. Development of innovative activity, new approaches and conceptions, can not develop without the new going and methods near their realization and realization.

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A DYNAMIC MODEL OF MAKING DECISIONS IN THE ENTREPRENEURSHIP SECURITY SYSTEM

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The process of making personnel decisions at the enterprise requires high accuracy and speed, because the efficiency of work of the enterprise in general depends on the performance of the employees, their correspondence to their chosen position.

Scientific principles of economic security of entrepreneurial activity are laid down in the works: B. M. Andrushkiv [1], O. I. Zakharova and Ya. Prygunova [14], L. G. Shemaieva [10], A. F. Yaremenko [13] and others.

Personnel security of the organization as an object of management appears in the writings of such scientists as:

- M. A. Zhabrailov [3], K. V. Goncharov [5], N. V. Kuznietsova [6], N. K. Nazarova and Kh. Yu. Chzhana [8], I. B. Shvets [11] and others.

The works of scientists that are devoted to the methodology of assessment of personnel security:

- N. L. Gavkalova and T. S. Bushman [4], Yu. A. Poskipko [9], Kh. V. Zhydetska and L. A. Shvaika [15] and others.

However, the imperfection of the available methods for assessing the personnel potential of the company staff is that the evaluation process ends with the fact of obtaining results. The assessment is required to identify the problems of management of personnel security and solve them.

Therefore, the question of personnel security at the enterprise, namely, the construction of such a management system that would allow improving financial results and satisfying the needs of every employee, remains relevant.

The purpose of the study is to develop a dynamic model of making decisions in the personnel management system of the enterprise regarding the candidate's suitability for his/her position for its further integration into the model of intellectual management of the personnel security system of the enterprise.

To accomplish this task, it is necessary:

- to present the criteria for evaluation of candidates in the form of a hierarchical tree;
- to determine membership functions of unclear terms;
- to develop the knowledge base to model the process of making decisions based on unclear rules;
- to determine the method of unclear logical inference;
- to carry out parametric identification of the model;
- to evaluate the accuracy and transparency of the unclear model.

The methodological approach to determining the level of formation and ensuring the security of the personnel of the enterprise is offered by scientists N. L. Gavkalova and T. S. Bushman [4] which we will take as the basis.

The candidate's suitability criterion for his/her position is indicated by the integral index D ϵ [0, 1].

Candidate evaluation criteria are designated as K_1, … , K_n, n = 1 ÷ 10, the candidate assessment model for his / her position will be a functional display (Formula 1):

$$K = \{K_1, K_2, \dots, K_n\} \rightarrow D \in [0,1]$$

The factors are conveniently represented as a hierarchical tree.

The Tree elements are interpreted in the following way:

D – the root of the tree – the candidate's suitability to the position;

k1, k2, k3 – non-terminal vertices – large influencing factors;

Kn, n = 1 ÷ 10 – terminal vertices – separate influencing factors of intellectual control of the personnel security system of the enterprise.

The unclear dynamic model of making decisions in the personnel management system of the enterprise regarding the candidate's suitability to the position is based on expert knowledge and experimental data; therefore, to improve the adequacy of the model, the parameters of term membership functions were adjusted in such a way that the standard error was minimal.

The dynamic model of the enterprise personnel security system (SKBP) consists of the following components:

– the knowledge base that is based on the expert assesments, production rules system and enterprise personnel security system model, consisting of «black box» model, methods of making decisions;

– unclear model of the personnel security system of the enterprise (developed the Mamdani algorithm [8]), the result of which is to obtain a dynamic indicator of the personnel security system of the enterprise (fig. 1).

The application of static and dynamic model of making decisions in the enterprise personnel management system in the enterprise personnel management system will make it easier to make decisions.

Attention in this model should be given to the informational security, as it is indicated by E. Maikl, T. Vitman, Dzh. Gerbert [7], as well as I. Tashi and S. Gernauti-Geli [12].

The developed model of making decisions in the system of management of personnel safety of the enterprise can be used to monitor the dynamics of the employee's development for a certain period of time.

The Scientist O. V. Chernenko [2] focuses on the psychological and pedagogical aspects of the formation of professional adaptation of young managers to the

conditions of work in trade organizations, which we used in our model for trade personnel (supermarkets «ATB», «Furshet»).

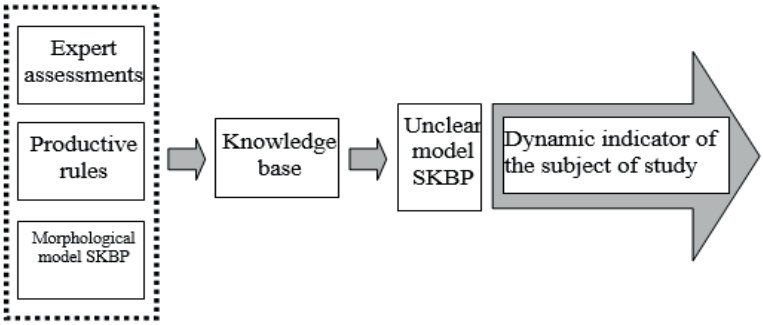

Fig. 1. Dynamic model of the personnel security system of the enterprise

For example, it is necessary to evaluate the suitability of a candidate for his / her position for 2 years. The developed model of making decisions in the system of management of personnel safety of company allows to determine the indicator of compliance at the control points – every 3 months, there are 9 estimates in total.

Table 1 presents the baseline data for the assessment in the dynamics, and fig. 2 shows how the candidate's compliance rate changed over the 2 years.

Such an analysis will allow you to fix break points, moments of emotional burnout or vice versa, career advancement.

According to the obtained results, management will be able to promptly respond and reduce the risks of personnel security at the enterprise.

Table 1

Initial employee data for 2 years

Criteria\ periods	1	2	3	4	5	6	7	8	9
K1	0,22	0,22	0,22	0,22	0,32	0,32	0,32	0,32	0,32
K2	1	1	1	1	0,25	0,25	0,25	0,25	0,25
K3	0,25	0,25	0,45	0,45	0,45	0,45	0,45	0,45	0,45
K4	1	1	1	1	0,3	0,3	0,3	0,3	0,3
K5	0,3	0,3	0,3	0,3	0,35	0,35	0,35	0,35	0,35
K6	0,75	0,75	0,8	0,8	0,8	0,8	0,8	0,8	0,8
K7	0,25	0,25	0,4	0,4	0,5	0,5	0,75	0,75	0,75
K8	0,4	0,4	0,4	0,4	0,6	0,6	0,6	0,6	0,6
K9	0,5	0,7	0,9	0,9	0,6	0,6	0,6	0,6	0,75
K10	0,8	0,85	0,95	0,95	0,95	0,95	0,95	0,95	0,95

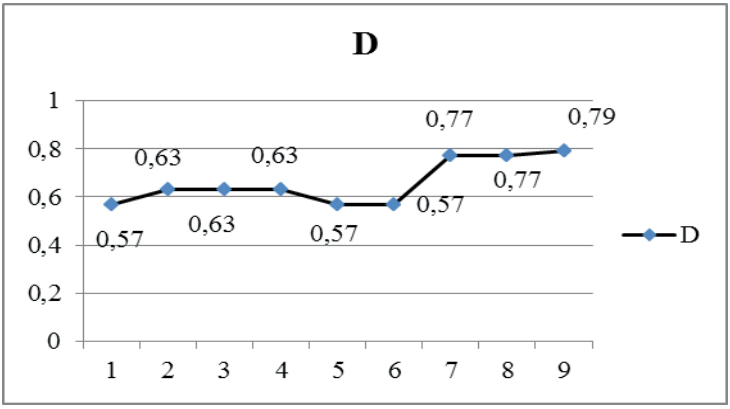

Fig. 2. Dynamics of employee compliance assessment

The developed system of decision-making models in the system of management of personnel safety of the enterprise is a hybrid, as the following methods and approaches are applied for its practical implementation:

- methodology of system analysis for morphological model construction, determination of inputs-outputs, environment, structure and relations between elements of the decision-making system in the enterprise personnel management system;

- methods of expert assessments for processing information while constructing functions of unclear terms of linguistic variables and in forming the knowledge base;

- the method of unclear logics for building a dynamic model of decision making in the system of management of personnel security of the enterprise, namely for the implementation of the system of logical inference;

- methods of statistical analysis for estimation of accuracy of decision-making model in the system of management of personnel safety of the enterprise and for processing of statistical sample in the construction of functions of belonging of terms of input and output linguistic variables of the model.

The personnel security system is directly connects with the personnel management system and economic security of the enterprise. There are two issues that management should pay particular attention to.

Firstly, it is the process of hiring a potential candidate for his or her position that requires automation and processing of large amounts of information.

Secondly, it is a constant monitoring of the development of existing employees in the enterprises and timely adjustment of positions and requirements to them.

Thus, the practical value of the developed and implemented by us the author's dynamic model of making decisions in the system of personnel safety management of the enterprise will allow the personnel managers to take into account quantitative and qualitative indicators of a candidate's professional suitability for a job, to

investigate the development of a given employee at the stage of hiring and for a certain period of time further adjusting the personnel strategy and personnel management system.

The practical value of the research lies in the application of the developed model of making decisions in the system of personnel safety management of the enterprise to assess the dynamics of development of employees in the enterprise, with the aim of improving and improving the level of management of the personnel safety system.

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LAND RESOURCES MANAGEMENT IN THE CONTEXT OF STRENGTHENING FOOD SECURITY OF UKRAINE

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Land resources management in the context of strengthening food security of Ukraine is considered either from the point of view of ensuring the absolute value of a certain quality of food or from the point of view of the possibilities of further production of the same food in general, which are related to the ecological efficiency of the management of land resources due to at least two ecological reasons: the need to create an environmentally safe environment for humans and wildlife, which preserves biological balance and water balance of the territory, improves the circulation of organic matter, provides increased reproduction of economic fertility of the soil, accompanied by increased content of humus, production of environmentally friendly non-agricultural production the environment by agricultural chemicals; the need for an indicator to determine the sustainable development of rural areas, improved circulation of organic matter provides increased reproduction of economic

soil fertility, accompanied by increased humus content, production of ecologically free daily non-agricultural production of the environment by agricultural chemicals; the need for an indicator to determine the sustainable development of rural areas.

Logicaly, that the whole history of rural agriculture, as well as of modern civilization, is an attempt to compromise between the desire to maintain high yields and preserve the fertility of the land in the future. With the increase in production of economic products, the environmental value of the site decreases. At some point an equilibrium is created between environmental and economic benefits derived from a tract of land, which is an indicator of the effectiveness of the organizational and economic mechanism of rational agricultural use. Of course, the maximum possible economic indicators of agricultural land use need to reach only if a sufficient level of land reproduction is ensured. This requires an increase in the number of indicators and criteria for assessing the effectiveness of agricultural land use, as well as the high efficiency of land conservation and use measures for sustainable rural development relevant to this study.

From the general set of indicators performance indicators for land resources management, we highlight those that are important analytical material at the national level. Among all indicators (35 in total) of the environmental efficiency of land resources management, the agent of land interests state responds to 26 indicators, of which 15 (weighing 0.14-0.15) were selected by the expert method in three criteria (weighing 0.3-0.4) - anthropogenic loading, reproduction, harmonization. Considering the above, and the author's considerations and expert evaluation, we will present a system of criteria for assessing the level of economic efficiency of land resources management of the agricultural sector of the economy. The environmental efficiency of land resources management is closely intertwined with the social one, since the creation of an environmentally friendly environment is a necessary factor, which significantly influences the formation of normal living conditions for workers and the population in general [1-5, 11]. All types of land resources management efficiency should be considered not in isolation, but focusing on avoiding the situation when higher economic efficiency is achieved by violating environmental security and curtailing social programs [6, 8-9].

Among other priorities, depending on economic results of national subject of land resources management, the protection of natural resources acquires a high status only after achieving high profitability of economic activity. Accordingly, the state, as an agent of land relations, should take some of the responsibility for these processes in conditions of low profitability. Therefore, the study generalized indicators and developed criteria for the environmental effectiveness of land resources management, taking into account their importance and the impact of all agents of land interests.

Prospects for managing land resources of the agrarian sector of the Ukrainian economy in the present conditions have a short horizon of forecasting. This phenomenon is explained by the increasing globalization influences on all spheres

of being of modern society, including land relations. Therefore, taking into account the current general trends in the development of the world economy, more possible is scenario modeling in the development of ecological efficiency forecasts for agricultural land resources management [7, 10].

In view of the above, the estimation of the predicted impacts of environmental performance of land resources management has been carried out. Let λ is an arbitrary indicator. It defines two functions on the set of all indicators. The function fλ (aijk) is 1, if changing λ changes aijk, and equals 0, if there is no connection between λ and aijk. The function gλ (aijk) determines the regression coefficient the indicator aijk to the indicator λ. Then, when the index λ is changed by the value of Δλ, the change in the integral efficiency of land resources management is determined by the equality (1):

$$\Delta = \sum_{i=1}^{3} \sum_{j=1}^{3} \beta_{ij} \sum_{k=1}^{5} \alpha_{ijk} f_{\lambda}(a_{ijk}) g_{\lambda}(a_{ijk}) \Delta_{\lambda}$$

Indicators of environmental efficiency of land management resources cause the most indirect impacts (table 1).

Table 1

Predictive rating of influence of indicators on the assessment of the integrated efficiency of land resources management according to 2018 *

Indicator	Influence	Indicator	Influence	Indicator	Influence
AL5	0,688	B1	0,120	D2	0,045
R3	0,616	M1	0,120	D3	0,045
LR1	0,417	B4	0,080	D4	0,045
PM4	0,403	P5	0,080	D5	0,045
AL3	0,378	LR3	0,060	B5	0,045
AL1	0,366	LR4	0,060	H2	0,045
LR2	0,330	LR5	0,060	H3	0,045
D1	0,256	AL2	0,060	M2	0,045
AL4	0,231	P2	0,060	M3	0,045
H4	0,172	P3	0,060	M4	0,045
R2	0,167	P4	0,060	M5	0,045
P1	0,167	PM2	0,045	C2	0,045
H1	0,160	PM3	0,045	C3	0,045
C1	0,160	PM5	0,045	C4	0,045
PM1	0,120	H5	0,045	C5	0,045

Symbols: value added per 1 ha of farmland (LR1); weight of profit per 1 ha of farmland (LR2); the difference between the rate of increase of land value and the rate of increase of

prices for other non-residential real estate (LR3); the difference between the growth rate of gross production and the growth rate of acreage (LR4); rate of rent (LR5); the difference between the level of profitability of agricultural activity and the average deposit rate (PM1); level of profitability of agricultural activity (PM2); rate of increase of profit from the sale of agricultural products and services (PM3); the share of agro-dollars in the total net output of the agricultural sector (PM4); the amount of net profit attributable to one founder of the enterprise per year (PM5); share of livestock products in the structure of gross production (D1); the share of perennial plantations in the structure of farmland (D2); the share of arable land that has not been sown (D3); provision of energy power of agricultural enterprises (D4); rural economic activity (D5); the number of people who actually feed 1 ha of agricultural land (P1); the difference between the rate of increase of labor productivity and the rate of increase of land-use of workplace (P2); value added per employee (P3); the difference between the rate of increase in labor productivity and the rate of increase in wages (P4); labor productivity (ПР5); the ratio of the wage of an agricultural worker to the average in the economy (M1); share of wages in value added (M2); rural social activity (M3); the share of those wishing to engage in commodity production on their own land (M4); share of expenditures for social activities in total expenditures (M5); the rate of increase of rural population (C1); the rate of increase in the number of agricultural workers (C2); number of farmers per 10,000 villagers (C3); the number of workers per 1000 ha of farmland (C4); rate of increase in area of agricultural lands of citizens (including farms) (C5).

Source: authors' own calculations.

Thus, an increase in the amount of chemical fertilizer application per 1 ha of acreage (AL1) has a positive impact on the economic efficiency of land resources management through an increase in gross collection and, consequently, of total household resources (in this case, workers' salaries and rent payments). The use of land resources per unit of gross output (AL3) has a positive impact on the economic efficiency of land resource management by increasing land returns, and on the social efficiency of land resources management by increasing labor productivity under all other things being equal. Regarding the share of sunflower and rapeseed in the structure of acreage (AL4), according to the author's studies, more diversified farms are more profitable, and more personnel can be involved in the production process, which is observed on the impact map.

The negative impact of livestock density (AL5) on the social effectiveness of land recources management is explained by the decline in livestock production and, hence, by the much lower value added per employee. The positive impact of this indicator on the economic efficiency of land resources management is due to the multiplier effect of diversification of production.

Regarding the positive impact of humus balance (R2) on economic and social efficiency, any increase in this indicator means improving the quality of land resources → yields + quality of products → gross collection + sales prices → the income of all agents of land interests. Specific weight of acreage fertilized with organic fertilizers (R3) has a negative impact on the economic efficiency of land resources management due to the high cost of manure and its application and the

inability to objectively calculate the economic effect due to its long-term nature.

The decrease in the share of eroded land in the structure of farmland (H1) is associated with additional costs, which leads to a decrease in the economic efficiency of land resources management, and, on the contrary, increases the social efficiency of land resources management due to the possibility of obtaining additional resources by households.

The computer program was used to predict the change in the cost of integrated land resources management using the proposed methodological approach, which, taking into account mutual influences, allows to calculate the predictive rating of the impact of indicators on the assessment of the integrated efficiency of land resources management. One of the variants of this forecast is presented in Table. 2. Of the 15 most influential indicators, 9 are environmental, 4 are economic, 2 are social.

The content of this forecast is that when you set a change in one of the indicators (for example, by 1) by a certain value (in conditional assessment points), the value of the integrated efficiency of land resources management changes.

For example, an increase of 1 point of AL5 (livestock density) leads to an increase of 0.69 points of the value of integral efficiency land resources management. That is, an increase in the density of cattle by 59% (1 point of the value of this indicator is 59%) increases the value of the integrated efficiency of land resources management by 2.89% (1 point of the value of the integrated efficiency of the land resources management is 4.18%, respectively 0.69 points are 2.89%).

If for 2018 the density of livestock was 31.5 c.h. per 100 ha of agricultural land, the absolute increase of 59% would be 18.6 c.h. per 100 ha of agricultural land. In terms of cows (1 conditional head = 1 cow) and the entire area of agricultural land in Ukraine, this will mean the need to increase the population by 6501 thousand heads. The second most important factor (sensitivity of change in the value of integrated management of land resources) is R3 (the share of acreage fertilized with organic fertilizers) and again related to the development of animal husbandry. This indicates that it is impossible to increase the efficiency of land resources management without diversifying production.

The matrix of forecasts of values of integral efficiency (IE) of management of land resources of the agrarian sector of economy for all analyzed criteria is developed (Table 2).

For example, a change of 1 point (moving from an estimate of 5 points to 4) of applying chemical fertilizers per 1 ha of acreage (AN1), which increases the integral efficiency of land resources management by 0.366 points (or 1.55%), is equivalent to an increase of AN1 by 9.9%. In absolute terms, this means an increase in AN1 from 82.0 to 90.1 kg a.s., which is equal to the additional introduction to the entire acreage of 152.6 thousand t a.s. The calculation of the dynamics of other indicators is identical.

Thus, the predictive data take into account the interrelationship of individual indicators and is a versatile tool for managerial decision-making in the presence of

certain resources and food security capabilities.

Table 2

Predictive values of integral efficiency (IE) of land resources management of agricultural sector of economy under the influence of change of indicators of 'anthropogenic load' criterion by 1 point *

Indicator	Change of IE		Change and forecast indicators		
	point	%	point	%	in absolute measurement
Chemical fertilizer application per 1 ha (AL1) kg a.s.	0,366	1,55	–5→–4	+9,9	82.0 → 90.1 kg a.s. or the whole area of 152.6 th.
Application of plant protection products per 1 ha (AL2), l	0,060	0,25	–6→–5	–7,4	2.7 → 2.5 l / ha of acreage
Using of land resources per unit of gross output (AL3), ha / thousand UAH	0,378	1,59	–2→–1	–11,3	0.141 → 0.125 ha / thousand UAH (–3078 thousand hectares)
The share of sunflower and rapeseed in the structure of acreage (AL4),%	0,231	0,96	–3→–2	–2,3	22.3 → 20.0% (–139.8 thousand hectares)
Cattle density (AL5), mind. / 100 ha of farmland	0,688	2,89	2→3	+59,0	31.5 → 50.1 d. / 100 ha of farmland (+ 6501 thousand c.h.)

Using the authoring system of forecasting matrices greatly facilitates the calculation procedures and the perception of the practical nature of forecasting the economic, environmental and social effectiveness of land resources managment, including in the context of harmonization with globalization prospects for sustainable development and food security, which are the subject of further research.

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MANAGEMENT OF TRANSFORMING SOCIAL PROJECTS AS THE BASIS OF SOCIAL SECURITY

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For Ukraine, the problem of socio-economic development is becoming more and more urgent every year, which is caused by increasing levels of unemployment, crime, inequality, corruption, shadow relations and so on. All this does not contribute to strengthening the social security of the state. In the face of diminished state aid in solving social and economic problems, the economic burden for which corporate social responsibility becomes the basis of doing business is the main burden on the social security of the population.

Due to the acceleration of globalization processes and the implementation of large-scale changes in various fields of economic activity, great importance is

attached to projects and programs of transformation.

Transformer project management is a complex, multi-level process that requires the development of an appropriate project management concept. Some contribution was made by well-known scientists in the field of project management D. Williams and T. Parr [1, p. 76-108], D. J. Anderson [2],K. Wackowski [3, p. 40-44], who have developed many radical approaches to project management and have found a contradiction between the requirement of a function acting in the face of change and the timely adaptation of management systems to them. The interest given to managing transformation projects as one of the new areas of project management and change management has emerged as a subject of research by domestic scientists: SD Busheva, NS Busheva, AI Belokon, VA Racha, RB Tyan, VD Shapiro, II Mazur, BA Demidov and others [4].

The purpose of the study is to define the concept of «transformative project» and group its components; the concept of «architecture of transformative projects»; understanding of the need for scientifically sound legal norms for supporting transformative projects in the public sphere in conjunction with social security, providing guidance on how to improve the project management process to ensure timely transformation of the organization.

There are three types of change in business today: developmental, transitional and transformational. Traditional project management and what is commonly called «change» effectively support developmental change and transitional change, but they are extremely insufficient for transformational change [2, p. 106]. Unlike change management, transformation management cannot simply be guided by a few discrete, well-defined changes, it must focus on a coordinated portfolio of interdependent initiatives.

The need for a systematic approach to project transformation management is highlighted by the Polish researcher of transformational changes in the field of computer science, K. Wackowski [3, p. 42-44]. The authors of the study «Creative technologies for project and program management» [4, p. 48-73] reviewed creative project management technologies and programs based on the construction of matrix and genetic technologies. British project management professionals have proposed a new approach to program management that maximizes the likelihood of real value creation through programs and transformation projects.

As for the management of transformation projects in Ukraine, this approach is at an early stage of development and therefore needs further development. In general, project management techniques of this type have not yet been sufficiently developed.

Each approach has its own objective prerequisites, as well as prerequisites for organizational transformations, which together have a common and specific character [5, p. 196]. The general objective prerequisites for the transformation of social and economic governance systems to create a modern social security system are as follows: improvement of means of production and labor; increasing scales

of concentration of production, improvement of products; increasing the level of complexity of social and industrial processes; the need for synchronization, coordination and integration of activities; governance as a form of social security; the need for knowledge management.

Other considerations include the evolution of organization management theory and practice [6, p. 103]. The main ones are: increasing human needs; social needs for change; transformations related to globalization, informatization, demographic change, etc.

In 1991-2020, Ukraine underwent a process of internal transformational change in its legal, economic, political and social systems. The main purpose of the changes resulting from the draft Sustainable Development Strategy «Ukraine to 2030. Project 2017» – introduction of the European standard of living and global progress of Ukraine, compliance with social security standards, ie ensuring the security of the state, business and citizens, protection of investments and private property, effective mechanisms for combating corruption. The priority is human life and health. Strategic goals set in the Strategy should be considered as transformational projects [7].

Despite the objective prerequisites for scientific management of transformative projects, there is still no corresponding theory of national management of organizational and managerial transformations. New approaches to managing transformative projects should be based on the conceptual provisions of the science of transformation management and be consistent with the trends of the economy of Europe, other developed countries, and countries with economies in transition.

Based on the aforementioned transformation project management, it should be based on the following conceptual provisions:

1) the concept of «transformative project» should be considered as a form of purposeful management of transformation activities, the transformation process or a set of documents. In this case, the project is an integral part of the organizational transformation management system, which should be built taking into account the conceptual provisions of organizational transformation management in the widespread use of programmatic management in various fields, including innovation;

2) the main elements of the transformation project (fig. 1) should include formulated goals and objectives that reflect the main purpose of the transformation project. There is also a need for a set of project measures to address the problem and achieve the goals set, first of all, their relationship with resources and contractors in order to achieve the goals of the transformative project for a limited period of time within the set cost and quality. Finally, the transformation project should identify the main indicators of project success, both from the target – for the project as a whole and from the individual - for the tasks, topics, stages, activities, executors, including indicators that characterize its effectiveness;

3) projects can be formed as part of a transformation program, realizing the

goals of certain types of transformations (directions) of a transformation program, ie reorganization, revitalization, restructuring, etc .;

4) the formation of transformation projects by individual types will provide a comprehensive, systematic approach to achieving specific transformation goals. This will ensure continuous management of the design process, and can provide a sound decision on the direction of effective implementation of project goals;

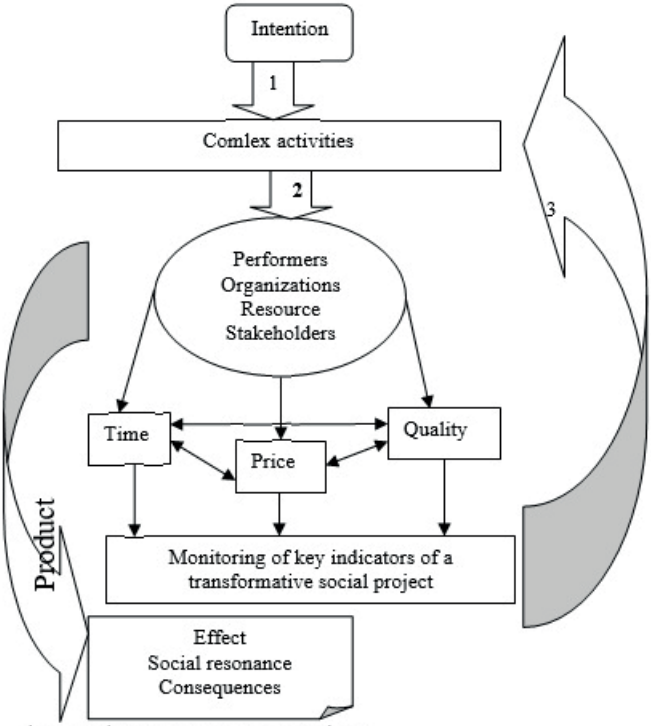

Fig. 1. The components of a transformative project

5) It is advisable to manage the transformation project on the basis of a model document issued by the Project Management Authority (PMI) of the Project Management Authority [1; 8, p. 178-183];

6) formation of project architecture, including leadership structures, team dynamics, behaviors and support mechanisms that allow the project to be implemented, the need to create support structures and mechanisms that will ensure effective project management, including; creating a transformation team;

7) formation of transformation architecture [1; 9, p. 27-44], which focuses on

the human factors behind the program. This architecture will usually be influenced by the programs and projects being implemented. Thus, the architecture of transformation projects can be defined as: it is a way of planning and coordinating human factors across the organization during transformations, which includes understanding the overall strategic goals, context and capacity for transformation, developing an approach to transformation within the organization, further planning and implementing the necessary human measures and transformations for the implementation of the initiative.

Recently, the project approach to managing transformation processes has received recognition from scholars and practitioners in public administration. It is concluded that there are a number of interdependent and interconnected transformational processes taking place in the modern world, which directly affects the state-legal reality of individual countries, determining the development of their socio-political, legal, economic and cultural spheres of life, which are the basis without a hectic state policy [10, 11].

For modern Ukraine, economic globalization is a key factor, which has heightened the tension between democracy and transnational corporate power networks. In addition to economic globalization, transformation processes have led to a number of significant changes in all spheres of life, directly affecting the nature and orientation of transformation processes in Ukraine, determining the current state of its social security [12, 13].

Nowadays, more and more companies are paying attention to the necessity of introducing a socially responsible business concept, the foundations of which were proposed by K. Davis in 1975. According to Wojciechowski N. S. social projects can be considered as investment and scientific and technical if they by their effects affect public life [14, p. 10]. Social project, according to Lukov V. A. is a concentrated initiator of social innovations, the purpose of which is to create, modernize and maintain material and spiritual values that have spatio-temporal and resource boundaries [15, p. 36].

The above definitions do not take into account and do not clearly define the micro-level value of social projects, their importance for the socio-economic development of staff. Social project should be considered in several aspects: first, as a characteristic of investment and innovation activity of the enterprise; secondly, as a socio-organizational condition for the implementation of the socio-economic development of staff, which ensures the formation of factor elements of its cohesion.

From the standpoint of a two-dimensional definition of a social project, standard procedures are being developed, which include the development of the project concept, preliminary feasibility study, planning and drafting of the project, its implementation and liquidation. This approach to social design does not meet today's social security requirements; it must be refined to identify the project as an integral part of the organizational transformation management system.

The functioning of any economic entity is aimed at achieving specific strategic

goals, which necessitates the monitoring of the implementation of developed and implemented social projects. The content of the performance monitoring system is to create guarantees for the implementation of social projects and, therefore, to increase the efficiency of the management process.

The principles of monitoring the effectiveness of organizational transformation management should be defined as follows: Innovation – implementation of innovative management technologies in the process of implementation and monitoring of social projects; timeliness – constant monitoring of changes in the external and internal environment; priority – the focus on the strategic goal of the social project and the enterprise as a whole; creation of conditions for control of achievement of a purpose and the decision of tasks; analytics – a causal analysis of the dynamics of changes during the implementation of a social project; building potential for success in the future based on strategic planning principles.

The decision to implement a social project must be substantiated. The selection of a particular project should be determined by the result of the calculation of the coefficient of need for the implementation of the social project (K_n) by the formula (1):

$$K_n = K_{con} * E$$

K_{con} – the coefficient of compliance of the project with the priorities of socio-economic development of the stakeholders of the social project;

E – effectiveness of social project implementation.

The coefficient of compliance of the project with the priorities of socio-economic development priorities of socio-economic development stakeholders is determined by the results of peer review based on the following criteria:

1) the project fully complies with the most important socio-economic development priorities stakeholders ($K_{сп}$ =1);

2) the project is mainly in line with the priorities of socio-economic development stakeholders (K_{con} =0,75);

3) the project is partly in line with the priorities of socio-economic development stakeholders (K_{con} =0,5);

4) the project does not meet the priorities of socio-economic development stakeholders (K_{con} =0).

If several projects have equal values of the coefficient of need for implementation, then priority is given to the project with the shortest period of implementation.

Thus, transformative social project management requires an innovative approach, taking into account the globalization challenges, the economic state of the macro-, micro-level of the state and households, the saturation of the information field and the exchange of information, changes in society, accompanied by the status change of professional activity of workers and affecting the state as economic and social security. Despite all the complexities, in today's economic environment, project

management becomes a modern management system. This system is effective in the development and implementation of innovations, new technologies, automation systems and information technologies. The implementation process itself requires a systematic approach that involves defining conceptual provisions, planning a set of works, monitoring results on the basis of the proposed principles, and controlling their implementation. That is, the use of methodology for managing transformative social projects requires preliminary scientific and practical research in order to develop mechanisms for automating the processes of effective management, monitoring the implementation of projects and their improvement. This requires further scientific research in this area.

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ECONOMIC SECURITY MANAGEMENT OF EDUCATIONAL INSTITUTIONS BASED ON ENERGY EFFICIENCY

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The current state of pricing policy of the education industry directly depends not only on the quality of providing educational services, but also on the peculiarities of social situation of territorial communities and state policy as a whole. The reform of the educational system in Ukraine provides the introduction of autonomy of educational institutions. At the same time, it should be noted that in order to establish financial independence, it is necessary to search for additional sources of financing. Increasing competition in the educational sector requires institutions to implement priorities in strategic development – to form an effective pricing policy for educational services. An important condition of this process is the attraction of resources through additional educational services, or through savings on utility bills, etc.

Sustainability of the national economy and social direction of development of Ukraine depends on improving the energy efficiency of the country, and requires consistent implementation not only of a long-term state strategy in this sphere, but also the development and coordination of effective mechanisms of interaction between energy sector participants and energy consumers. At the same time, the implementation of target directions of increasing the level of energy efficiency is possible due to the program-target method, which is one of the components of the financial management system. The purpose of the development is to concentrate the resources of economic entities and build a unified system of energy efficiency management and to coordinate efforts of both state and regional authorities, local

self-government, institutions, etc., which is relevant to the research topic.

The formation of an effective regional development management system is largely considered in works of such scientists as O. Berdanova, M. Butko, V. Vakulenko, B. Danylyshyna, E. Libanova, O. Makarova, V. Novykov, R. Plusch, Y. Surmin, and others [1-3, 5-9, 11]. An important role is assigned to the components of the program-target method, as a mechanism of public administration of the unified system of state and regional authorities and local self-government, institutions, etc., which in particular will provide the coordination of energy efficiency and formation of a reasonable price for educational services.

The issues of forming an effective pricing policy in the field of education have become the object of study of many scientists. However, this topic remains relevant today and necessitates finding a unified approach of determining the optimal pricing model for educational services. The process of cost formation on the basis of a integrated approach from the standpoint of a unified energy space, systematic goals and objectives, criteria for determining the degree of target indicators achievement set in state policy, becomes important.

Among the scientists who have devoted their research to methodological approaches to the implementation of program-target management method, L. Abramova, O. Amosha and others can be distinguished [1-2]. However, the improvement of the methodology for assessment of higher educational institutions, the specific features of higher educational institutions, the introduction of energy-saving measures, rules and mechanisms of their regulation in the budget sphere, which should be taken into account when pricing the cost of educational services, remains unresolved. The urgent problem of lack of public finances actualizes and emphasizes the relevance of the chosen research topic. Educational institutions, as a lower sphere of life, directly embody state policy, where regional government acts as a conductor between the state and the institution itself. The implementation of the state strategy is impossible without taking into account the peculiarities and factors of the dynamics of the region of their location and the direct functioning of the institution itself.

The complexity of modern tasks of the state strategy in the energy sector encourages to apply a systematic approach to management in this sphere, which will allow to manage energy efficiency of establishments and institutions through the subsystem of the fuel and energy complex of the region and ensure their energy independence. The program-target method is defined by a set of components that include subjects, regularities, principles, functions, strategic development targeted programs, organizational structures, resources, methods, organizational culture, competencies, technologies and tools. The main purpose of creating mentioned management model is to use such a regulatory lever as a mechanism for influencing regional policy, technical and technological systems for generating, transporting and consuming energy to improve energy efficiency and, as a consequence, reduce the cost of educational service.

Having analyzed the European educational experience, it is possible to

determine the difference from the Ukrainian system of quality assurance of higher education: each university builds its own strategy of its evolution on the basis of the global activity concept and taking into account unique value systems, reflecting the specifics of activity and the purpose of this higher educational institution, which can be very useful for education quality assurance processes. That is, first of all, in order to improve the reliability of energy supply, the realization of energy security, it is necessary to define the concepts of energy market participants behavior and the social processes taking place in this sphere.

Secondly, in order to increase the competitiveness and quality of services of educational institutions, it is necessary to introduce an integrated approach and due attention to regional peculiarities and existing experience from the standpoint of a unified energy space, systematic goals and objectives, criteria for determining the degree of achievement of the set goal and completion of tasks, reaching the target indicators, set in state policy.

The main factors in the development of energy efficiency management in educational institutions are the factors that influence the definition of management goals. First of all, in order to develop a methodology for a modern adaptive and sustainable energy efficiency management system of an institution, it is advisable to identify common factors that require analysis for energy market research and affect the functioning and decision-making by them. A consortium of representatives from the scientific and expert community of energy efficiency can now be involved, if necessary. Then specific factors that are based on common ones and implement direct improvement of energy efficiency in the institution should be identified.

Common factors of external influence are the following: institutional (level of the development of institutional environment); the level of inter-municipal integration; community mentality; organizational (level of knowledge, competencies and creativity of all employees of management bodies); development of morals and ethical standards of employees' behavior in the institution; the level of motivation of civil servants; the level of efficiency and functionality of the organizational structure of regional management, institution; other economic, political and social factors.

It is advisable to identify four main categories of special factors that affect improving energy efficiency in the region, namely: technical and technological; organizational and legal; organizational and economic; financial.

Today, the most acute problems that impede increasing competitiveness and autonomy of budgetary institutions, can be solved by: improvement of the system of educational institutions territorial placement; achieving subordination of ownership relations to the objects of social infrastructure; attraction of various budgetary and extra-budgetary funds for the effective functioning of establishments and institutions; optimization and improvement of staffing of educational institutions; a sufficient level of quality of services provided to the people by objects of the budgetary sphere, etc.

It should be understood that the price of educational services will be justified only

if complex national and regional problems are solved, first of all, finding effective planning of the pricing strategy, which underlies the strategy of development of the educational institution itself. It should be noted that this strategy needs to be constantly adjusted, as environmental factors are capable to ensure or, conversely, hold back realization of the targeted directions for improving the degree of energy efficiency and competitiveness of budgetary institutions.

The exercise of the right to education is governed by the system of current legislation. At the same time, in the context of reform, the legislation changes and sometimes the extension of the rights of educational institutions is limited by some normative acts, which is a violation of constitutional norms.

Thus, the Ministry of Education and Science of Ukraine plans to introduce restriction of a minimum cost of contracted educational service for certain specialties, which should not be lower than the indicative cost of training of specialists with the relevant higher education degree and specialty (specialization) by the full-time form of education for government or regional order.

The draft resolution of the Cabinet of Ministers of Ukraine "On some issues of indicative cost introducing" currently undergoes the approval stage. The prerequisite for determining the minimum cost of contract education was that from the state budget about 44.4 thousand UAH should be financed per education applicant, at the same time, the average cost of training of education applicants at the expense of individuals / legal entities in higher educational institutions was 28 thousand UAH. This is about 70 % of the cost of education.

Therefore, the Ministry of Education and Science of Ukraine proposes to introduce an order that will determine the minimum, marginal cost of contract education in 2020 at 60 %, 2021 – 70 %, 2022 – 80 %.

In accordance with Article 2, Part 3 of the Law of Ukraine «On Education», the subject of educational activity has the right to independently make any decision within its autonomy. If the bill "On some issues of indicative cost introducing" is adopted, the right to determine the cost of educational service will be abolished. In fact, this project will put a large percentage of higher educational institutions in a difficult position. The issue of linking the cost of education to the income of people in the region remains unresolved.

It should be noted that not all educational institutions have the prospect of generating additional income through educational services. The main factors that dictate the conditions of competitiveness formation are the various possibilities of providing additional services due to the location of the institution. In small cities, there is no prospect because of the small contingent of settlements and low level of income of the population.

According to the analysis of the educational activity subjects, a greater number of higher educational institutions are concentrated in Kyiv (262 institutions) and in Dnipropetrovsk and Kharkiv regions – (119 institutions each). The smallest number of institutions is in Chernivtsi and Luhansk regions. 296 institutions of I-IV

accreditation levels in different regions of Ukraine according to the part-time and full-time bachelor degree courses were analyzed [4, 10].

The inverse relationship between these quantities attracts attention. It should be noted that, despite the meticulous distribution of government order between higher educational institutions, equal funding is allocated from the state budget for the education of one education applicant, although the difference in the cost of contract education is observed. Thus, according to the 2019 introductory campaign, Taras Shevchenko National University of Kyiv is considered to be the most expensive higher educational institution in Ukraine. The estimate for the year of study of medicine in English is 71500 UAH. But at the same time, it is the leader in the consolidated rating of Ukrainian universities according to Osvita.ua in 2019 for three consecutive years, and such a price can be justified. Kyiv Mohyla Academy is the second most expensive higher educational institution of Ukraine. Studying at the Faculty of Law or International Relations costs 50000 UAH each. Although, in the consolidated rating it takes fifth place. Almost the same will cost study at the Faculty of International Relations at the Kyiv International University, it is 46400 UAH, although in the rating it takes 123rd place. The second one in rating is Igor Sikorsky Kyiv Polytechnic Institute, which has the highest price of 30600 UAH for the humanities and computer sciences.

Odessa Technological University «STEP» and Ternopil Institute of Social and Information Technologies with average cost of education of 55000 UAH, which are non-governmental institutions, are also leading among private educational institutions.

Obviously, the methodology for assessing higher educational institutions (an integrated index, which contains three complex components: the index of scientific and pedagogical potential quality, the index of studying quality and the international recognition index), has no impact on the cost pricing of educational service.

The expenditure method of calculating the cost of education proposed by the Ministry of Education and Science of Ukraine requires refinement, because, in addition to budget savings, qualitative changes in the educational cluster are not expected. According to the paragraph 5 of the Resolution of the Cabinet of Ministers «On Approval of the Methodology for Calculating the Estimated Average Cost of Training for one Qualified Worker, Specialist, Postgraduate, Doctoral Student» of May 20, 2013 No. 346 (as amended by the Resolution of the CM No. 916 of 06.11.2019), – «The state customer shall submit annually to the Ministry of Economy, by December 1, information on the estimated average cost indices according to the form set by the mentioned Ministry». That is, it is not taken into account that the higher educational institution can be formed and approved only after enrollment and determination of the exact number of places by government order (May-June), not when the higher educational institution approves its budget in January of the same year. Also, the development of a clear mechanism for transferring money to places (regions) addressed to education, that is, to refocus the

method of calculating the cost of training for one education applicant after the fact, after specification of number of places by government order, taking into account its own strategy of higher educational institution's evolution and taking into account unique value systems that reflect the specifics of the activity and purpose of this higher educational institution.

Considering that the payment for utilities and energy, the payment for maintenance of buildings and structures and adjoining territories (paragraph 3) is included in the calculation of the estimated average cost of training for the applicant, there is a need for formation of energy-efficient policy in each higher educational institution, despite the regional location, based on the integrated approach from the standpoint of a unified energy space. At the same time, the review of domestic publications shows that 60 % of the cost of educational services is heating and electricity costs for educational purposes.

Of course, the numbers depend largely on the geographical location and area of the institution, heating and lighting system, etc. Namely, to ensure the rational use of public funds, the formation of an effective mechanism of stimulating the implementation of energy-saving measures, rules and mechanisms for their regulation, which would properly regulate the issue of financing, is being activated.

Examples of the implementation of energy efficient projects, which are one of the key priorities for reducing the cost of educational services, are the following higher educational institutions: Lviv Polytechnic National University; National Technical University «Kharkiv Polytechnic Institute»; Chernihiv National University of Technology; Sumy State University; National University «Yuri Kondratyuk Poltava Polytechnic»; Vinnytsia National Technical University. This opportunity has emerged due to the State Policy on Energy Efficiency of Ukraine, which aims to increase participation in projects of international organizations and communities. Thus, on December 19, 2016, a Financing Agreement between Ukraine and the European Investment Bank (EIB) on the project «Higher Education of Ukraine» was signed in Brussels. Under the agreement, the EIB will provide EUR 120 million for energy efficiency improvement in Ukrainian universities, EUR 10 million for the Eastern European Partnership on Energy Efficiency and the Environment (E5P) investment grant, the Nordic Environment Finance Corporation (NEFCO) agreed to provide EUR 30 million for a loan. The loan funds are attracted for 20 years with a 5-year grace period. The total estimated cost of the project is EUR 160 million. The relevant Financing Agreement between Ukraine and the EIB was ratified on 8 November 2017.

The project was initiated and developed by the Ministry of Education and Science with the EIB, which aims to implement energy efficiency policies and energy-efficient technologies in buildings, home appliances, and spheres of final consumption such as lighting, and correlates with the recommendations of the new World Energy Outlook-2017 (WEO-2017) review of the International Energy Agency (IEA). The project not only elaborated methodological approaches to adaptation of the procedure of improving the efficiency in the sphere of education,

but also determined the amount of work for each higher educational institution addressable. According to the results of the energy audit, it is planned to provide energy saving and optimization of management processes of energy consumption in 147 buildings. Modernization and renovation of Ukrainian university buildings, taking into account the rules of energy efficiency, rational energy saving and creation of an effective system of energy consumption management – allow to form an effective educational environment, which ultimately will directly influence not only the calculation of the estimated average cost of training for education applicant, but also ensure the strategic development of each institution, despite the restrictions of some normative acts of Ukrainian legislation.

The agreement also provides for a second phase of the project aimed at improving energy efficiency and the acquisition of equipment for university research laboratories.

An analysis of the experience of leading countries in the sphere of education shows that more educational institutions receive funding for educational activities without a strong link to the cost of training for one specialist. This model of funding through the education system can influence the demographic and economic indicators of the state as a whole. That is, any institution in any region, within the limits of its financial autonomy, will determine how many specialists it can actually prepare for the allocated funds within the defined strategy of higher educational institution, taking into account regional peculiarities, criteria for determining the degree of achievement of the set goal and completion of tasks, reaching the target indicators, set in state policy. The issue of the distribution of finances between higher educational institutions is the constituent element of the higher education quality assurance system and necessitates a detailed analysis, taking into account a unified management system of energy efficiency and coordination of efforts of state and regional authorities, local self-government, institutions, etc. The issue of refining the expenditure method of calculating the cost of education in order to be able to make its own decisions by each higher educational institution, despite the regional location, based on the integrated approach from the standpoint of a unified energy space remains unresolved.

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INNOVATIVE MANAGEMENT AND ECONOMIC SECURITY OF THE ENTERPRISE'S PROJECT ACTIVITIES

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Innovative activity associated with the transformation of the results of scientific and technical practice into a new or improved product/service involves a range of scientific, technological, organizational, financial and commercial activities. Together, this leads to innovative changes in the project. The main principles of the cost of projects are relevance, general, regional and sectoral values. Study of

classification of evaluation questions from the position of the principle of evaluation of project problems that come from the sources of the bureaucratic management system. The recognition of CEN/TS 16555 and ISO56000 innovation management standards helps to solve both theoretical and practical management processes [1].

The problem of an economic security and the innovative projects was studied by such scientists as Frolova T. (2012) [2], Zhy`vko Z. (2018) [3], Wiengarten F., Fynes B., Cheng E., Chavez R. (2013) [5], Gunasekaran, Ngai E.W.T. (2007) [7], Slav'yuk R., Shkvarchuk L., Kondrat I. (2017) [6],

Yuanzhu Zhan, Kim Hua Tan, Baofeng Huo (2019) [10] and other. Scientists use static and dynamic indicators to determine the alternativeness of projects. New ideas and projects are evaluated in relation the unstable economic and political condition of the country. Foreign methods of evaluation and innovative projects require adjustments in practice, which is the problem of this study.The main driving force of economic globalization is transnational corporations, which constitute the most representative and powerful part of corporate business, where more than half of the world's production, exchange of goods, services, investments, and innovations are concentrated [2].

A potential investor always identifies a number of alternative uses of capital. Each of them is characterized by different parameters: the object of investment, the time period, the size of the investment capital and commercial risk. The goals of both the owner and the investor are obvious — to get the most guaranteed benefits from capital investment. They can be achieved by selecting a quality project that allows for the evaluation and effective achievement of the goal.

The conducted analysis allows us to proceed to the consideration of the indicators of the project evaluation on the materials of «Avto Techcenter-Chervonograd» private enterprise (representation of the «Renault»). They can be used to make decisions on the feasibility of implemented innovations.

The purpose of this study is to substantiate the implemented innovative project of the «AvtoTechcenter-Chervonograd» enterprise as the necessary information for decision-making on changes in investment in innovations.

The choice of investing in the Renault brand was influenced by local criteria: 1. The pricing policy is attractive for the largest group of real customers in the region.

2. Renault cars consider the customer's needs in comfort, safety, reliability, warranty service.

3. Bank credit conditions for the purchase of a car, which is provided by the Renault Finance credit program.

4. Own statistical calculations, observations, analysis of the sales market, evaluation of car service, trends in consumer preferences, personal experience in this market segment indicate the prospect of business development. «The peculiarity of the enterprise's economic security lies in the need to skillfully organize the processes of production, marketing, innovation, investment, and other nature. Activities should be organized in such a way as to minimize losses» [3].

This necessitates a comprehensive approach to the protection of activities, reflected in the need to create a system of economic security. Capital investment is an inseparable part of the activities of any economic entity with the main purpose of making a profit (table 1):

Table 1

Investment objects

Material (real) investment	Financial investments	Intangible (nominal) investments
Acquisition of tangible assets by business entities (land, construction of premises, equipment for servicing machines, equipment, material resources)	Investing in authorized funds, credit from the bank	Acquisition of licenses, rights to use resources, intellectual property objects

Source: prepared by the author.

«Considering the issues of evaluation of innovative efficiency, formulated the effective use of resources of the existing private enterprise» [3].

Providing financial and material resources of participants in the innovation process in «IFG: financial and banking services for innovation processes in the IFG on the basis of the established financial strategy that takes into account the peculiarities of the production, personnel, technological, marketing, social, environmental components of the overall strategy for the development of IFG or the plan of sanation» [4].

The main task of «AvtoTechcenter-Chervonograd» enterprise is the sale of cars under favorable conditions. Construction of a new car dealership, car-care center, driving school, Renault's auto parts store is a strength that limited the external threats of competitors. This contributed to the development of «AvtoTechcenter-Chervonograd» enterprise by neutralizing the weaknesses, for example. The object of strategic marketing of «AvtoTechcenter-Chervonograd» enterprise was an innovative solution for the sale of cars and the provision of services of a technical, material, economic, organizational and social character. Thus, the process of managing the efficiency of the innovative project of the «AvtoTechcenter-Chervonograd» enterprise is divided on the basis of the types of management of the efficiency of management at the stages: pre-investment, investment, operational.

At the investment stage of the innovation project, unsafe commercial prospects for project implementation based on market research (low number of cars sold in comparison with the European Union) have been substantiated (Fig. 1).

The real characteristic of car sales is shown in the diagram.

Long-term investments in the «AvtoTechcenter-Chervonograd» enterprise is necessary for decision-making on the expediency of introduction of innovative changes. Consequently, the total payback of the project was estimated at 16 months, and the actual production and economic activity at 38 months. This is satisfactory

in assessing economic security. The innovation process is cyclical, so the project is extended in time. This indicates the complexity of the organization and formation of the business. However, over the past 6 years, there has been a more than three times increase in the exchange rate relative to the hryvnia. Accordingly, the price of each car has increased. Financial income from the sale of goods/services of a new type is periodic in time, and has a proforma life cycle, so the management process is logical. The sale of Renault cars by model for the period 2016-2019 were as follows: Renault Captur – 2, Renault Dokker – 6, Renault Duster – 2, Renault Kadjar – 2, Renault Koleos – 3, Renault Lodgy – 3, Renault Trafic – 2, Renault Logan – 17, Renault Logan MCV – 8, Renault Sandero Stepway – 12 units.

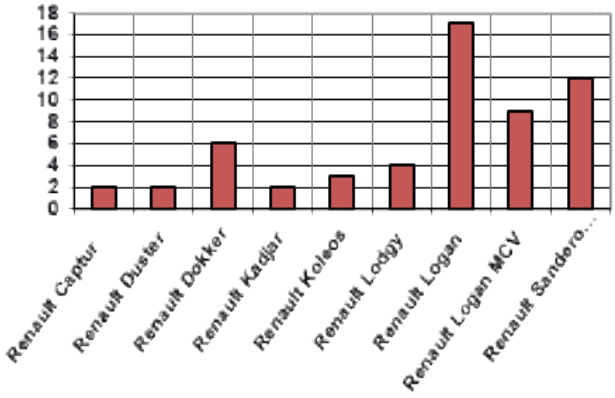

Fig. 1. The number of sold Renault cars for the lineup of 2016-2019.
Source: prepared by the author

The possibilities of a private investor of «AvtoTechcenter-Chervonograd» enterprise project to find the best competitive position in a separate market segment due to the lack of cars in the region. The relevance of them researches is predetermined by the necessity of fixed monitoring of the competition, because joint-stock companies increase causes the state potential growth.

Increased revenues are not 300%, and the cost of purchased goods/services. Maximum material costs have increased, which indicates the growth of the material and technical base, in particular, the cost of equipment and technical means. Therefore, the managers have reviewed the investment project at the investment and operational stages and introduced significant changes. Instead of a part of the project market of auto parts «Renault «own areas under the project» Activity of schools for the training of drivers of vehicles» are used. This happened by opening a new driving school on the basis of «Renault» – a brand with a good reputation and pricing policy that (from their own experience and market analysis), the best way

to acquire customers in the region. The company started to register driving school activities in 2017. Cooperation with a fast food chain «Chicken HUT» was not implemented in practice, and the trading area was used to open its own cafeteria.

Studying the criteria of economic security and efficiency, they were classified according to the following criteria: absolute and relative, are statistical and dynamic. The statistical absolute includes total income (profit) and average annual income, the statistical relative — return on investment. The dynamic absolute includes net present value and annual equivalent, the dynamic relative-the profitability index and internal return on investment. Together they are characterized by an indicator of the payback period of the project. The above-mentioned aspects affect the economic security of the project.

Quality management practices such as total quality management (TQM) are continuously applied to improve firm performance. Specifically, Wiengarten F., Fynes B., Cheng E., Chavez R. «identify that the seven practices closely related to TQM, namely visionary leadership, internal and external cooperation, learning, process management, continuous improvement, employee fulfillment, customer satisfaction, have a significantly stronger impact on operational performance in companies characterized by a high level of innovativeness» [5].

Due to the fact that the innovation project is carried out for its credit funds, one should be particularly careful when choosing a change in the innovation project. Marketing and sales are related to the commercial implementation of the results of the innovation project. To assess the effectiveness of the innovation project, various stages of innovation are considered (table 2).

At this stage, we actually justify the choice of the most acceptable innovation. Summing up the results of the study, we have fully fulfilled the objectives, developed a number of recommendations and proposals for the management of economic security and efficiency of innovative projects for the private enterprise. This is the main feature of the innovative project. An investment project is understood as a plan of activities and changes in business ideas, implementation of which was required to attract investment in «AvtoTechcenter-Chervonograd».

The final stage of the life cycle is important. The moment of recoupment of long-term capital is approaching, and on the other hand, the achievement of an innovative goal is a difficult task due to the payment of borrowed funds from the bank. There is a conflict between the desire to write off the old capital, to abandon it before it will be achieved. Both options involve a huge risk: in the first case, you cannot profit (capital savings); in the second – to lose the advantages in the fight against competitors, if they have time to advance to a newer technical base. Hence the danger that awaits the economy at the completion of the life cycle of capital invested in a franchise. The more the latter clings to the remnants of life, the more catastrophic can be the consequences for the whole economy and the more painful inevitable transition to a new structure. The obvious benefits that come from innovation are the representation of the Renault.

Table 2

Changes in the innovation project at three stages of the innovation process

RENAULT Passion for life	1. Pre-investment stage	2. Investment stage	3. Operational stage
Project	Construction of a two-story shopping and service center as part of the Renault franchise;	– opening of a private «Renault» car showroom; – Renault car service; – Renault auto parts market; – Clayland Corporation and Investment fast food project;	– sale of successful «turnkey business»;
Project changes in the activity of the enterprise	– construction of a two-story shopping and service center «Renault» on the basis of a bank loan; – redevelopment of the interior;	– opening of a service station for cars of all brands; – mini-cafe equipment; – car insurance; – project in the direction of a driving school; «activities of schools for the training of drivers of vehicles»;	– opening of a driving school «activities of schools for the training of drivers of vehicles»; – checking the technical condition of the vehicle with the issuance of a certificate; – provision of services for the conclusion of car insurance contracts;
Theory projects	– the system of economic security of the enterprise associated with the implementation of the project are the costs unevenly distributed at different stages, while it should be remembered about the uneven nature of the innovation process itself; works carried out.	– the possibility of emerging in the field of newcomers is determined by barriers to entry, preventing their entry into the market.	– barriers that can be «economic security», «information technology/ information system», «know-how», «knowledge to innovative», and «total quality management».

Source: prepared by the author.

Achievement of this goal is possible only on the basis of balanced assessment of the opportunities and threats of business development in the analyzed market share. On the one hand, the representation of the «Renault» of entrepreneurs will develop its competitive advantages and eliminate weaknesses as compared with competitors operating with another.

The research identified the stage of economic development (decline) of the private enterprise through the theory of cyclical fluctuations of the innovation process.

Practical significance is the recommendations on improving the effectiveness of the implementation of an innovation project and the economic security of repayment of credit funds received by the bank for its implementation.

Thus, in the implementation of innovative activities, there is a need to ensure the formation of an optimal capital structure using indicators of economic efficiency.

Since manufacturing has become global to address the needs of the global market, companies take advantage of advanced information technologies in achieving their global supply chain. It is not enough to just establish an integrated information system such as enterprise resource planning (ERP).

In the course of the study, it became obvious that efficiency should be managed at certain stages. It was found that the duration of the phase was related to the return on investment in technology. Modern assessment of the Ukrainian financial market competitiveness remains low with the limited nomenclature of financial services, but it can be considered attractive to potential foreign investors.

From the characteristics of the innovation project it turns out that the funds invested in «the project are outside the context of the sources of their origination» (own or borrowed, internal or external) [6]. At all stages of the innovation process, investments are made that are necessary for the implementation of the innovation project.

Today, it is a fairly common way to improve the efficiency and agility of management (sourcing) by transforming a certain amount of internal activity of the enterprise and attracting assets into commercial intermediate products provided by internal or external providers. According to «Garnet's definition, sourcing is the variable use of internal and external business and its resources and services to achieve the business goals of the enterprise» [7].

Without «the integration of people and information technology/information systems (IT/IS), it is very hard to achieve any significant improvement in organizational performance» [8]. Advanced manufacturing enterprises are characterized by a «physically distributed enterprise environment, outsourcing and it-enabled chain management (SCM). This process attempts to ensure the availability of knowledge management (CM) literature in manufacturing in order to identify the gap between theory and practice, strategy and methods for systems management in advanced manufacturing environments» [9].

The innovative infrastructure of the corporate environment covers activities within the framework of the innovation process (science-technology-production-consumption) and it should be characterized by the following properties: information dissemination; universality, flexibility, professionalism, constructiveness, «financial and information security» [10]. The creation of organizational and economic conditions that would permeate the economic system and ensure the formation of a constant need for the development of scientific and technological innovations is the basis for the development of the entire innovation sector.

The economic, social and technical effects are of varying quality, but they are also interrelated. As a result, it is necessary to start considering the criteria, as there are various relevant indicators of economic efficiency. The criteria laid economic, social and environmental approach, where the leading place is economic security and the result of the quality business project.

Project development forecast:

- The center of business in the district is Chervonograd, where the majority of the population works in the coal industry with an income of about $ 1,000 per month.

- There is evidence that about 20% of the able-bodied population is abroad, which indicates the receipt of large amounts of additional funds in the region.

- The term «statistics police», which annually registers about 100 new vehicles in the city of Chervonograd.

- During the crisis, the share of sales of economy class cars has increased (the moderation of the price of Renault cars allows to predict the growth of demand for cars).

The opening of the Renault trade and service center in Chervonograd has allowed the «AvtoTechcenter-Chervonograd» enterprise to increase own competitiveness in the market of sale of cars and their service.

This contributed to the gradual strengthening of its position in selected market segments. An innovative direction (driving school) has helped to establish a strong position of «AvtoTechcenter-Chervonograd» in the automotive market of the Sokolsky district (including t. Chervonograd).

Summary. The interdependence between the innovative development project, organizational changes and investment management of the «AvtoTechcenter-Chervonograd» enterprise. An analysis of the enterprise environment at three stages of the innovation project (pre-investment, investment, and operational stages) was conducted. The «Renault» innovative project trade and service center included: the construction of a two-story office building; the opening of a «Renault» motor show and auto service franchise; Renault auto parts market; cooperation with «Clayland Corporation and Investment» fast food.

The following were reorganized at the investment stage: an own Renault showroom was opened (non-deductible); service station for cars of all types; equipped mini-cafe; car insurance; own extra area was used under the project «Schools for the training of drivers of vehicles». An estimation of economic security and modification of the design of the «AvtoTechcenter-Chervonograd» enterprise was performed. The practical significance of the study lies in the recommendations to improve the effectiveness of implementation of the innovation project and payment of credit funds received from the Bank for its implementation.

Thus, the realization of cooperation of enterprises with the franchise of the international brand «Renault» in the European Union takes place according to the basic rules and clearly defined conditions. Innovative projects at enterprises in Ukraine do not always give income from one type of activity (sale of cars). Managers are looking for additional activities to obtain funds from consumers (auto repair; check the technical condition of the vehicle with the issuance of a certificate; driving school; provision of services for the conclusion of car insurance contracts; cafe).

Optimization of the management process is determined by the peculiarities of the stages of the innovation project (table 1).

The company needs to increase its investment in economic security to reduce the risks of information leakage. Increased investment in information security will reduce risks accordingly.

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MANAGEMENT OF THE DEVELOPMENT OF AGRICULTURAL RESOURCES USE

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Agro-industrial production in our country is a very resource-intensive sphere of the national economy, where more than a third part of all production resources of the country are concentrated. However, due to the acute and extremely long financial and economic crisis, the agro-industrial complex has lost its ability to even simply reproduce the resource potential, and its structural imbalance and lack of some production resources, especially logistical and energy resources, lead to their inefficient use.

Production resources are an integral part of any economic cycle and, accordingly, an integral part of any economic unit. The main task of production resources is to maximally meet the needs of business structures for their uninterrupted operation and development [6, p. 32]. Therefore, a satisfactory organization of production resources of any economic unit can be said only when the organization of production resources is complex, taking into account the technology of production and the composition and sizes of the production resources themselves [3, p. 32].

Resource management system presupposes the need for a complex organization of the formation and use of production resources should be singled out, since this principle is not always maintained not only in practice, but also in theory (fig. 1).

The enterprise with the modern organization of production realizes the corresponding types of economic activity, which are carried out by individual production units of the enterprise with adequate providing resources. Thus, the formation and use of production resources in close relationship with other activities of the enterprise provides the effectiveness of its operation [3, p. 55].

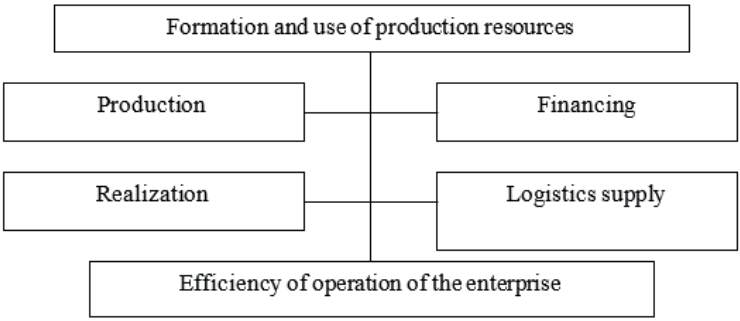

Fig. 1. Main directions of interaction of enterprise

The main task of enterprise subsystems is to comprehensively meet the needs for production resources of economic units of the enterprise and to create appropriate conditions for their effective use within the whole enterprise. It is determined that the needs and means of their meeting differ depending on the production and other tasks of the enterprise. Activities related to the development or modification of organization of formation and use of production resources of the enterprise, should take the form of appropriate measures that can be qualified by the extent of coverage:

- comprehensive, covering all types of production resources of the enterprise;
- partial, related to the appropriate type of production resources;
- organizational and technical measures related to the modernization of organization of formation and use of production resources.

Production planning is closely related to product sales and inventory control. Product sales planning and related use of production resources are the basis for managing the production activity of an enterprise. Schematically this relation can be represented in the following way (table 1).

Table 1

The main interrelations between production resources and production efficiency

Methods	Options	Standards
Cost management	Detailed cost sharing	Cost standards
Management of equipment operation and repair work	Loading equipment; work schedule	Terms of operations
Inventory management	The level of inventory for each type of resource	Cost of resources standards
Production management - a general assessment of the activity of an enterprise	Sales volumes, value of working capital	Profit level, profitability

In the process of manufacturing products (services), different types of production resources interact with each other and the correlation between them establishes an appropriate equilibrium in a certain period of time. Growth, balance and interaction are the main characteristics of the production system. Equilibrium is the main condition for its effective functioning.

The practical experience of agricultural enterprises and its theoretical generalization show that improvements in the use of production resources ensure adequate economic efficiency only when partial measures to improve the formation and use of resources will ensure their rational functioning as a whole.

The resource potential of an enterprise is a system- generalizing concept that

includes a certain number of structured elements and is constantly or periodically influenced by internal and external factors. The resource potential of an agricultural enterprise should be understood as the complex of land, logistical, labor, financial and information resources of an agricultural enterprise, acquired by it in the process of economic activity, contributions of participants and lease and intended for the organization of production, commercial and financial activities [2, p. 62].

All components of the resource potential of agricultural enterprises in a market economy should function as a commodity. And this necessitates the organization of markets of land, labor, logistical resources, capital. Speaking about the land market, it should be noted that its main features in the agricultural sector are: the use of land for agricultural production, its limited space and eternity (provided by rational use). Functioning of land as capital is possible only in conditions of a full-fledged agricultural land market, when it becomes possible for the latter to move from inefficient users to more efficient ones. Without this, it is almost impossible to count on forming sufficiently effective land relationships.

Today, land plowing in Ukraine is much higher than in the vast majority of countries. The share of arable land in the current structure of the land fund of Ukraine reaches 54.4 %, while in developed countries it is much lower. For example, in the US, this indicator is 19.8%, France – 32.1 %, Great Britain – 24.8 %, Poland – 44.2 % [1]. In EU countries, land is not cultivated unless one hectare of land receives EUR 500 in profit. Only with such a profitability, the innovation and investment attractiveness of the industry can be ensured, people can be returned to the villages and be provided with comfortable living conditions [55, p. 41]. Therefore, an urgent problem is the optimization of the land fund of the country, reducing its agricultural reclaiming and plowing, which will allow to improve the ecological status of agricultural landscapes, to intensify production due to the concentration of funds on a smaller land area. Development of the land market will help attract long-term loans to the agricultural sector.

An essential element of any production process is the means of production. They create the production and technical potential of the agricultural sector, which is determined by the set of material elements of production, which provide the ability to perform the entire cycle of technological operations in the production of finished agricultural products [9].

The effective functioning of any agrarian enterprise requires the availability of a proper logistical base and the best possible use of all its components. First of all, it concerns the technical means, which current level of providing is relatively low for most agricultural producers.

The problem of the village is also the faster rate of decrease in the number of working women (compared to men), which deprives rural settlements of development prospects. According to studies, for men, the important motive is the correspondence of the work to the acquired specialty, and for women - a convenient mode of work, proper living conditions and a favorable moral and psychological

climate in the workforce. To improve the sexual condition of the peasants, it is necessary first of all to create or restore jobs for rural women. 500,000 jobs were lost in Ukraine alone as a result of livestock reductions. In addition, according to official statistics, 30 % of the total number of preschools, 16 % of clubs and libraries, 42 % of public catering establishments, 44 % of hospitals, 45 % of shops, 93 % of houses of life have declined over the last 11 years. And this is another 200 thousand women jobs [7, p. 130].

The primary task of the heads of agricultural enterprises is to retain present employees, who have the most productive age, have sufficient levels of qualification and practical experience. They should take care to improve the industry structure of the enterprise, which would allow to provide a fuller workload of employees throughout the year. The employment of rural population is facilitated by the development of labor-intensive industries (vegetable growing, viticulture, gardening, cattle breeding, pig breeding, etc.) [1, p. 23].

Among the measures of state regulation of the labor market, the most important are: implementation of priority financing of rural social sector development; development of regional integrated programs for crisis management; promoting entrepreneurship, private initiative; increase of efficiency of labor resources use; enterprises, institutions, and organizations that create new jobs in high-unemployment regions of the local population should receive income tax benefits and other financial assistance as required by law. An important factor in achieving the proper efficiency of the reformed enterprises activity is the high competence and business qualities of managers and specialists who are able to determine the future development strategy [8, p. 20].

Effective management of the agricultural enterprises resources will ensure a stable position in the market in case of implementation of innovative strategic management tools, namely a successful combination of knowledge, experience, technologies (key competences) under the following conditions:

1) the enterprise, possessing various resources, must combine them in its production activity. This combination enhances and complements resources, making them unique and inaccessible for competitors;

2) market success for an enterprise is guaranteed if the enterprise selects and combines resources more intensively than its competitors;

3) as a result of an effective and successful combination resources take the form of key competencies that are inaccessible and unchanged for competitors;

4) the source of the formation of key competence is the innovation, technical and technological capabilities of the enterprise;

5) the impetus for developing key competencies is the readiness of the consumer to benefit from them and to pay for new products created as a result of their implementation;

6) key competences form tangible and intangible assets (unique knowledge, information technologies, technological and organizational know-how, goodwill)

that only increase over time, the quality and efficiency of their use increases;

7) any agricultural enterprise can acquire key competences through the formation of unique databases, the creation of a suitable climate in the workforce, creative use of innovative ideas [10, p. 40].

The success of an enterprise's strategic development, the effective implementation of its strategic plans, depends on a number of subjective and objective factors, such as management's willingness to undertake large-scale projects, the knowledge, skills and qualifications of managers, or the availability of resource potential. In other words, enterprise managers need to focus on the successful operation of the enterprise through the formation of strategically oriented resource potential of the enterprise. The requirements that the environment puts on the enterprise determine the main directions of transformation of the enterprise resource potential, its strategic line of behavior [5, p. 67].

Resources (depending on their origin) are divided into two groups: primary resources are those created by nature, regardless of the will and desire of man, but used in social production (land and labor resources); secondary – products of the production process that are directly or indirectly used in the production of material goods (fixed and circulating material means, financial and information resources). The resource potential is defined as a complex integrated economic category, which means a set of primary and secondary resources capable to provide social production to meet the material and spiritual needs of people. The set of technologically, economically and ecologically balanced production resources that provide highly efficient and environmentally friendly production of agricultural products, their processing, storage, transportation and sale is defined as production potential [4, p. 99].

Implementation of strategic management of resource potential is carried out with the help of the strategy chosen by the enterprise, since it, if successfully implemented, ensures the achievement of the set goal. Development of strategic priorities is impossible without the formation of elements of strategic management of the resource potential of the enterprise. Literature dedicated to strategic management uses the term «strategic potential of an enterprise», that means the complex of available resources and capabilities to develop and implement an enterprise strategy. In this case, the focus is on the resources of the enterprise used to develop and implement the strategy. However, strategic potential is formed by not only the available resources, but also by the resources that an enterprise can acquire, changing their characteristics in the process of implementing strategic decisions. Therefore, both available and potential resources need to be added to the resources that form the enterprise's potential [10].

A strategically oriented resource potential of an agricultural enterprise is the adequacy and sufficiency of the enterprise's resources and competencies to develop and implement a strategy in order to obtain sustainable competitive positions in the market. This position is completely responds to the resource theory and assumes that

the strategic development of the enterprise is determined by the available qualitative resources, which correspond to the concrete agricultural enterprise, its strategic goals. The availability and quality of resources and competencies determine its own configuration of possible directions for strategic development of the enterprise.

Thus, resource security is the driving force for transition to the new industrial model, that in the long-term perspective provides a transition from taxing labor income to taxing used resources and inflicted environmental damage.

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FOOD SECURITY SYSTEM: CONCEPTUAL FUNDAMENTALS

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One of the priority directions of state policy development is the promotion of food security in the field of food products supply to the population and in the sphere of industry resources. The problem of preserving food security is not a new phenomenon. It has always been a global issue both in the political and in the socio-economic spheres of life in any state and in the world politics too. Food security is a multifaceted socio-economic and political phenomenon. There are different approaches to the definition of the notion of food safety in the economic literature: philosophical, sociological, economic, methods of economic and mathematical modeling, etc.

As an object of research, food security is seen primarily as a system for the production and distribution of food.

Food security is the protection of a person's vital interests, which implies the state's guarantees of free economic access of a person to food resources necessary for his or her normal life [4].

Food security fundamentals are significant for any country's national security conception. Therefore, the responsibility for creating food safety lies with the state. Sustainable socio-economic development of a society is impossible without providing the population with a sufficient quantity of quality food.

Food security, as defined by FAO, exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.

The basics of food security are the availability of food, access to it, its use, and the stability of such a situation. The nutritional aspect is an integral part of the concept of the food security system.

Food security is a system, which is providing a reliable supply of food to the population. The most indicative food security factors involve:

- high level of the agro-industrial complex development, which enables the state to provide the entire population, including the poorest, with food;
- availability of the sufficient transitional strategic food reserves;
- the opportunity to invest in food production to promote the long-term sustainable development of agriculture.

Food security includes three components that are indirectly related to food independence. The first component is the physical availability of food, the second

is economic accessibility, and the third is the security of the food itself. Food independence concerns, above all, the interests of the producer, while food security is a problem of the consumers.

In this context, the feedback of food security and competitiveness is a topical issue, as the main principles for achieving food independence are the effective work of foodstuff producers and the improvement of the general state of the economy. Thus, the competitiveness of business creates conditions for the realization of the food policy of the country. At the same time, the effective work of agricultural and food processing industries contributes to the development of markets for raw materials and food products, promotes creation of new jobs, improves the employment situation of the country and creates conditions to increase income of the population, increases revenues to the budget due to the growth of tax deductions.

In this regard, the following system of criteria is recommended for evaluation of the food security state:

- achievement of such a level of self-sufficiency of food that can ensure independence from external and internal threats;
- assurance of physical and economic access to the basic foodstuff for all social groups;
- high level of state policy development in the field of agro-industrial complex, including training of personnel, forms of state support of native producers, sufficient amounts of subsidies for agricultural producers.

The criteria for food security are related to the level of the share of proper agricultural production in the total amount of commodity resources.

In general, the country's food security is characterized by such indicators as the sustainability of the food security system, the physical and economic availability of food, the level and quality of nutrition among the population, the independence of the country's food security from imports, the size of operational and strategic food reserves. It is also necessary to take into account the state of the agro-industrial complex of a country as one of the main factors of food security.

Based on these criteria and indicators, we believe that the elements of food security should be:

- physical availability of a sufficient amount of safe and nutritional food;
- economic accessibility of quality food for all social groups;
- autonomy and economic independence of national food systems (food independence);
- reliability, that is, the effectiveness of the national food system to minimize the impact of seasonal, weather, and other fluctuations on the food supply of the population in all regions of the country;
- sustainability, which means that the national food system is developing in an extended reproduction mode.

Food security involves a system of resource structure corresponding to the demographic population. It comprises the interconnected subsystems, based on

functional, organizational, resource, and technological principles. The main aim of the resource system is uninterrupted sufficient and qualitative satisfaction of the people's demands for the basic foodstuffs [6].

The system-forming factor for the formation of this system is the agro-industrial complex, all components of which are focused on solving the problem of ensuring food security and food independence of the country. In turn, the subsystems of the agro-industrial complex for the sale and distribution of food, food reserve, and consumption belong to the functionally targeted subsystems of the food security system [5].

The supporting security subsystems are management, financial support, information support, logistics, technological support, research and innovations [1].

The most important indicators of food security include:

1) a high level of development of the agro-industrial complex, able to provide food for the entire population, including its poorest stratum;

2) availability of necessary transitional strategic reserves;

3) possibility to invest in food production the required funds for long-term sustainable development of agriculture.

Like any other system, food security has horizontal and vertical components in its structure. The horizontal structural component concerns the country's food security as it is an integral part of national security.

The analysis of food security in the national security system has led to the conclusion that all subsystems of the national security system are interconnected and interdependent.

In turn, national food security functions as a subsystem in the international food security of neighboring countries of a particular economic and geographical region and global food security.

Kaihorodtsev A.A. suggested the following system of the state regulation measures for the agroindustrial complex, which contributes to and may facilitate the solution of the food problem [5]:

- improving the system of economic relations in production, purchasing, primary and secondary processing, storage, transportation and marketing of agricultural products;
- implementation of flexible taxation of agricultural producers, provision of tax benefits to those producers who invest in the development of priority industries and products, or adhere to the principle of sustainable development of production in compliance with environmental standards;
- constant monitoring of the domestic food market and food security of the country, creation of mechanisms of public control of the imports expediency and quality characteristics of the imported food;
- modernization and a technical re-equipment of the processing enterprises, introduction of the advanced technologies and quality management systems (ISO 9000, ISO 14000);

- creation of the database covering the innovative projects and advanced technologies in agro-industrial complex and informing periodically the participants of the food market about them;

- creation of the conditions and intensifying the processes of the domestic foodstuffs entering the foreign markets, stimulating an export of the cereals and the products of its processing;

- encouraging imports of machinery and equipment for companies that produce capital goods for agriculture and other branches of agro-industrial complex, means of production for promising industrial technologies of production and processing of agricultural products, breeding animals of highly productive genetic lines and seeds of high-yielding and high-protein crops, patents and licenses that contribute to the scientific and technological re-equipment of the agro-industrial sectors;

- increasing the investment attractiveness of the agro-industrial complex, introduction of tax privileges and other exemptions that will help to re-equip the material and technical base and the formation of a logistic system of agro-industrial complex, which includes municipal wholesale food markets in large cities and a network of procurement points in rural areas;

- development of the equipment leasing system for the processing industry enterprises;

- consistent implementation of the import substitution policy, saturation of the domestic market with a wide range of quality and competitive products of domestic production, reducing the import of the foodstuffs that can be produced in Ukraine;

- regulating imported food amounts in proportion to such basic strategic types of food as grain, meat, milk;

- rational placement of enterprises for processing of agricultural raw materials on the territory of the country, extending the practice of building enterprises, workshops and production facilities directly in the farms;

- optimization of the processing industry enterprises' production capacities;

- introducing new high-yielding varieties of domestic and foreign selection with a view to a considerable increase in food resources;

- mechanization and use of chemicals in agriculture; land drainage and irrigation;

- restoration of fertility of degraded soils with impaired humus content;

- promotion of ecological and economic farming systems;

- protection of the population from poor-quality foodstuff by improving the standardization and certification of goods services;

- stabilization of the food market through the organization of purchasing and commodity interventions;

- improving personnel, scientific, legal, and information support systems of the agro-industrial enterprises [5].

Thus, the place and role of food security correlate with other components of the national security system and its reliability is extremely important for the economic stability of the regions and the state.

To achieve the level of the developed countries, it is necessary to solve several interconnected and capital-intensive tasks simultaneously. The decisive among them are: technological modernization of the agricultural and food processing industry, sphere of services in the agro-industrial complex, formation of the personnel potential, capable of developing innovations, carrying out the programs on the restoration of production on the abandoned agricultural lands, including measures of increasing crops, development of the modern social infrastructure in the rural areas (houses, roads, etc.), transition to the policy of the intensive development of the rural sector. It is necessary to monitor constantly the parity price in the agricultural sector and other sectors of the economy, use indicative prices for timely measures to ensure the production profitability of meat, milk, grain, sugar and other vital food products [7].

The key findings of the study prove that today, food security is a prerequisite for the preservation of the country's sovereignty, economic security, and social stability. Without own food production, all other components of the country's national security significantly decrease in their efficiency. The agro-industrial complex of the country is the system-forming factor for maintaining food security, all components of which are focused on solving the problem of ensuring food security and food independence of Ukraine. Effective agricultural production is to be formed as a system of economic and legal measures to ensure the food security of a country with a focus on its domestic food production. For this purpose, it is necessary to create favorable conditions for life and economic activity of the rural population.

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DESIGNING OF LAND USE OF A COMPETITIVE AGRICULTURAL ENTERPRISE

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Taking into account the results obtained during the substantiation of the technical and economic parameters of agro-ecological investment, it should be noted that at the present stage of the development of agricultural land use, economic entities have been faced the task of designing sustainable systems that will ensure positive dynamics of the productive state of land resources and competitiveness in the current economic environment.

Modern trends in the formation of sustainable agricultural systems are focused on the new phenomenon of harmonization of environmental, social and economic systems – agro-ecological engineering. Agro-ecological engineering is a modification of farming systems through the use of environmental principles. That is a purposeful systematic process of transformation of agricultural systems into agro- ecological systems, which have the following characteristics. Increasing resource efficiency is a key feature of agro-ecological systems, in which issues as to the use of diversity to ensure synergy between different components are carefully planned. At the same time, one of the key efficiency problems is that, throughout the world, crops absorb less than 50 percent of the nitrogen fertilizers applied, and the rest of them are lost in the environment, causing serious ecological consequences. In agro-ecological systems, natural resources are used more efficiently, especially those that are abundant and free of charge: for example, solar radiation, atmospheric carbon and nitrogen [2, 6, 10]. By improving biological processes and the circulation of biomass, nutrients and water, manufacturers can use fewer external resources, reducing costs and mitigating the negative environmental impact of using these resources. Ultimately, reducing dependence on external resources enables manufacturers to increase their independence and resilience to natural and economic shocks.

One way to measure the effectiveness of integrated systems is to use the Land

Equivalence Ratio (LER). LER enables to compare the results of joint growing of two or more components of the system (e.g., crops, trees, animals) with the results of growing of the same components in monoculture. In integrated agro-ecological systems, LERs are often higher.

In agroecology, great attention is paid to the creation of diversified systems in which the species of annual and perennial crops, livestock and aquatic animals, trees, soils, water and other elements of farms and agricultural landscapes are competently combined to enhance synergy in an increasingly visible climate change. In food systems, the creation of a synergistic effect provides a lot of benefits. By optimizing biological interaction, agro-ecological management practices contribute to the improvement of environmental functions and, consequently, to the increase of resource efficiency and resilience to external effects. For example, by means of the biological fixation of nitrogen by leguminous crops in systems of combining crops or rotation, around the world, they manage to save almost $ 10 million annually. US apply nitrogen fertilizers; this leguminous property also contributes to soil healing and mitigating consequences of climate change and adaptation. Besides, in crop production, about 15 percent of nitrogen comes from manure, indicating synergy as a result of the integration of crop production with animal husbandry.

At the landscape level, synchronization of production activity over time and in space is required to enhance synergy. Grazing farming and extensive livestock grazing create complex relationships between people, herds of different species, and change of the environmental conditions that contribute to the creation of resistance to external effects and the implementation of ecosystem services such as seed dispersal, habitat conservation and soil fertility provision.

Along with the desire to maximize the synergistic effect, agro-ecological approaches imply certain compromises in both natural and anthropogenic systems. In particular, compromises are necessary when allocating resources and access rights. In the agro-ecological, in order to promote synergy within the food system as a whole and to achieve optimal compromises, much attention is paid to partnerships, cooperation and responsible management with the involvement of different subjects at different levels.

To support the transition to sustainable agro-food systems, agro-ecological engineering requires responsible and efficient management. To create favourable conditions that help manufacturers transform their systems in accordance with agro-ecological concepts and practices, management mechanisms are needed to ensure transparency, accountability and inclusivity.

An illustrative example is the management of land and natural resources. Sources of livelihoods for the most deprived and vulnerable groups of rural population largely depend on terrestrial and aquatic biodiversity and ecosystem services, but these categories of population are not guaranteed an access to these resources [1].

Agroecology provides not only an equal access to land and natural resources (this is a key factor in social justice), but also incentives for long-term investment

needed to conserve soil, biodiversity and ecosystem services.

Responsible management at all levels is the best support for the development of agroecology. Many countries have already developed national legislation, policies and programs in the field of agricultural production that promote biodiversity conservation and ecosystem services. Management mechanisms implemented at the level of territories, landscapes and communities are also essential to strengthen stakeholders collaboration and maximize synergy with minimal compromises, in particular, traditional and custom-based management models. Agroecology is focused on re-establishing manufacturers' ties with consumers in a circular and solidarity economy, with priority given to local markets and economic development at the local level, which drives positive changes in other areas.

Agro-ecological approaches help to develop equitable solutions, taking into account local needs, resources and potential, and to create fairer and more sustainable markets. Strengthening short supply chains can increase manufacturers' income while maintaining fair prices for consumers. This implies the development of new innovative markets along with more traditional territorial markets, where most small farmers sell their products.

Social and institutional innovations play a key role in stimulating the agro-ecological method of production and consumption. Examples of innovations that help connect manufacturers to consumers include systems of collective quality assurance, markets of local producers, products origin labeling, community-based agriculture, and e-commerce.

Thus, agro-ecological engineering contributes to the creation of agricultural systems with the necessary level of biological, socio-economic and institutional diversity, and to the harmonization of economic processes over time and in space in order to increase efficiency. The implementation of agro-ecological designing measures requires the identification of key features of the development of the current system of agricultural enterprise land use.

The results of testing the measures of substantiation of the technical and economic parameters as to the implementation of agro-ecological investment measures make it possible to conclude that in order to increase the efficiency of land use in the competitive environment of the agrarian market, it is necessary to develop projects that provide competitive advantages at the sustainability of the productive potential of agricultural land resources. To maintain fertility of land resources, it is necessary to create conditions for the reproduction of organic matter in soil.

A typical (or traditional) practice of land farming operates with a crop rotation system for the organization of the natural cycle of organic matter with the introduction of crops that affect the dynamics of organic matter (legumes, perennial grasses, etc.) [3, 5]. Also highly effective is the practice of application of humus, which is presented by plant components treated in the digestive tract of animals. This speeds up the process of mobilizing components of cultivated plants nutrition in soil.

However, the use of crop rotations with forage crops to ensure sustainability of

the productive state of the soil requires the removal of arable land for them, and, accordingly, the search for a consumer for forage resources to get the necessary level of competitiveness. This is quite a challenge in the context of the regressive development of the livestock industry. In addition, the main directions for ensuring the efficiency of livestock industries are focused on the use of natural land (hayfields, pastures) to reduce feed production costs. So, the task of ensuring sustainability of the productive state of land resources through the use of forage crop rotations and ensuring the profitability of production of livestock products, both within a single farm and in economic interaction, are phenomena with the opposite orientation of the entrepreneurial initiative. Therefore, with priority interaction of the economic initiative of the crop profile with livestock farms, the urgent problem for effective land use is the implementation of measures of organic matter "production", which has a positive effect on the level of competitiveness. That is, unfavorable conditions (for competitiveness) of interaction with enterprises of livestock specialization as the main consumer of forage resources should not affect the initiative and dynamics of the activity of plant enterprises for the implementation of measures to support the productive state of land resources.

In this case, it is necessary to pay attention to production systems that are able to provide the necessary output when consuming at the input of an available resource with ensuring the necessary economic efficiency of this transformation (fig. 1).

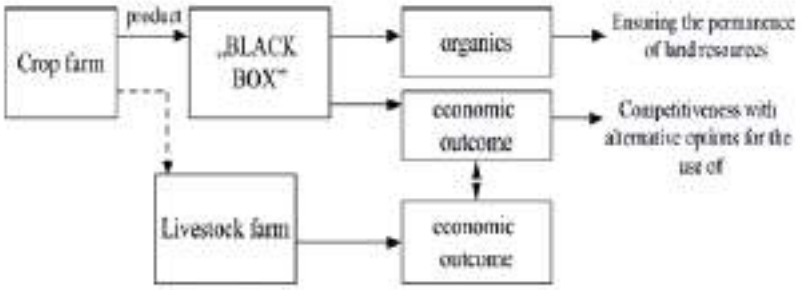

Fig. 1. Scheme of ensuring the competitiveness of prospective land use regime [developed by the author]

According to fig. 1, we can say that the competitiveness of the current regime of land use is ensured by obtaining sustainable economic benefits from making available plant raw materials into organic matter necessary to provide sustainability of the productive state of land resources that are greater than the proposals of livestock farms.

An additional advantage is optimization of the logistics of organizing organic fertilizer application, which will be implemented without fixing to the conditions of activity of livestock farms – consumers of plant raw materials. Thus, agro-

ecological investments can be implemented through the reinvestment of basic products using this scheme.

As part of the testing of agro-ecological engineering measures, in order to form a competitive model of agricultural land use and evaluate the benefits of the mentioned method of fertilizer production, it is proposed to form a model investment project that is relevant for the analyzed enterprises.

The prototype for the development of measures for restoration and maintenance of the productive state of land resources within the framework of resource-oriented agricultural land use is the experience of European countries, where the so-called energy crop rotations are practiced, when one energy crop is changed with another, which enables to harvest green mass twice a year, suppress weeds growth and significantly save money of an enterprise. They also grow two crops in one field at a time, such as corn and sunflower or corn and millet, which enables to increase the nutrient content of silage and stabilize yields during dry years [4, 7, 9]. These technologies can be used in our country – farms will always be provided with high-quality raw materials. Moreover, different crops can be mixed in a reactor: in many cases, it is even more effective than using one type of raw material. Therefore, the main purpose of creating renewable crop rotation is to create agrotechnical conditions for the accumulation of organic raw materials, the next purpose is to ensure the competitiveness of the plant industry of an enterprise through identifying ways to support the economic efficiency of the lands involved in renewable crop rotation.

The energy application of plant resource, which has become widespread in many energy scarce countries, provides adequate economic efficiency, but is accompanied by product recall from the agricultural sector. That is why, a purely energy direction may be seen as a means of ensuring the competitiveness of an agricultural enterprise, but as a direction of restoring the productive potential of land resources is somewhat doubtful.

However, it should be noted that the research of the technologies of accelerated production of organic matter components for soil fertility restoration determines the corresponding advantages of biological agents of fertilizers production. Thus, the main advantage of anaerobic fermentation as a technology for accelerated production of organic matter components is keeping of virtually all the nitrogen contained in the source raw material in the organic or ammonium form. With traditional methods of preparing organic fertilizers (composting), nitrogen losses are up to 30-40 %. Anaerobic treatment of manure four times – in comparison with non-fermented manure – increases the content of ammonium nitrogen (20-40 % of nitrogen goes into ammonium form). As a result, fermented manure in comparison with the usual one in equivalent doses increases the yield of crops by 10-20 %.

Anaerobic fermentation biomass contains much fewer pathogens than in the source material. It contains a significant number of nutrients and can be used as a fertilizer and a feed additive.

Anaerobic fermentation processes are accompanied by the release of significant

amount of natural gas (methane), which can be used to supply energy needs of a farm. It has been estimated that the use of biogas technologies for organic processing can not only completely eliminate its environmental risk, but also annually receive additional volumes of fuel, as well as highly efficient fertilizers, which would significantly reduce the extremely energy-intensive production of mineral fertilizers (about 30 % of the total electricity consumed by agriculture).

These competitive advantages in the production of organic fertilizers by means of anaerobic frementation make it possible to design a technology for realizing the economic benefits from forage crops of renewable crop rotation in the adverse market situation caused by the regressive development of the livestock industry.

A technical prototype of the production capacity of an organic fertilizer farm using anaerobic treatment of raw materials is bioenergy units that use similar technology to produce biogas.

The defining characteristic for the formation of technological conditions is determination of raw materials. The use of plant raw materials requires appropriate preparation, which affects the composition of the production line. Taking into account the objectives of the competitive sustainable land use project, corn silage and corn and sorghum silage were identified as raw materials for anaerobic treatment. Silage corn is currently one of the most efficient types of plant raw materials for processing. It gives a good yield per hectare and a large gas yield of 1 ton (220 cubic meters). The cost of producing corn is relatively small, and the machinery for sowing, harvesting and further processing is practically available in almost every farm. Undersowing perennial herbs adds benefits to physical and chemical restoration of soils and energy value to the processing.

In order to ensure appropriate versatility of the project, it is proposed to identify a technological unit capable of scaling to the needs of a farm. The Cognac plant of Voznesensk in Mykolayiv region is considered as an exemplary enterprise, the technical and technological base of which is taken as a technological unit of fertilizer production. The enterprise operates the Zorg Biogas unit for corn silage processing with a maximum daily load of 17 tonnes of silage and electrical capacity of a 125 kW co-generation unit. We should point out that 6205 tonnes of silage from 155 hectares of arable land at an average yield of 40 tonnes / ha is required to provide an annual volume of raw materials [8].

It should be noted that the effectiveness of investment in production capacity is determined by the scale of activity, but the provision of logistical benefits can be realized through the localization of activities using the represented technological units.

For modeling of a technological process within the framework of the investment program, we took the parameters that determine the peculiarities of implementation of the project as to introduction of organic fertilizer production in the system of competitive resource-oriented land use with the use of biogas technologies of raw material processing (table 1). The operation of the biological unit for anaerobic treatment of silage is ensured by daily loading of 17 tons of corn silage and its

processing within 20 days. Processed raw material in the form of sludge is loaded to a storage. The output sludge has moisture content of about 92 %. In Europe, the retail price of biohumus with moisture content of 40-60% is EUR 500 per ton.

Table 1

Parameters of modeling of the investment project of organic fertilizer production [calculated by the author]

Input parameter	Value
Daily volume of raw material loading (corn silage), t	17
Annual load of raw material (silage), t	6205
Fixed cost of corn and sorghum silage, hrn. / t	800
Output of the digestate (biosludge) from the raw material, %	75
Production of digestate (output sludge 92%), t / year	4654
Biohumus production (50% moisture), t	745
Retail price of biohumus (40-50% moisture), hrn. / t	13500
Investment in the biogas unit, euro	750000
Fixed euro exchange rate against hryvnia, hrn.	27

If to ensure further bringing of biosludge to moisture of 50 % (average of 40% and 60%), then 2.04 tons of biohumus will be obtained from 12.75 t of daily sludge output, which corresponds to 27540 hrn. at European retail prices. Total, for the year, the unit will produce biohumus for 10052 thousand hrn. This is the maximum income that can be obtained from such a biogas unit.

Increasing the profitability of the project is possible due to the expansion of business activities within a technological line.

In accordance with the set goals, in addition to providing conditions for organic fertilizer production as the main activity, as part of the project, it is planed to produce by-products – biogas – to ensure the competitiveness of the economic model. The technical and economic parameters for modeling of associated biogas production activities to enhance investment attractiveness of the project are presented in table 2.

The typical Zorg Biogas modular unit, which is noted within the exemplary enterprise, is designed to process 7500 tonnes of silage per year.

Fixed annual silage capacity of 6205 tonnes will provide a biogas station with the raw material for 125 kW. One tonne of silage yields 187 m3 of biogas, according to Zorg Biogas. For its own needs, the unit consumes only 45 kW of electrical power and 240 kW of heat. When reaching the planned capacity, the biogas unit of 125 kW enables to obtain the following output: in the form of biogas – 1160335 m3 / year, or electricity and heat during combustion in a co-generator – 1095000 kW / year and 799270 kW / year, respectively. The use of additional equipment for the conversion of heat into electricity enables to obtain additional electricity from thermal energy. The system is based on the Organic Rankine Cycle (ORC). The

liquid with a low evaporation temperature is converted into gas by heat and rotates a turbine. By giving away energy to the turbine and losing heat, the gas is converted back to liquid. The oil system at the efficiency coefficient of 20 % enables to obtain 200 kW of electricity per 1 MW of heat.

Table 2

Parameters of modeling of associated biogas production activities as part of the investment project [calculated by the author]

Input parameter	Value
Biogas output from 1 ton of corn silage, m3	187
Co-generation power, kW	125
Electricity generation per year, kW	1095000
Heat capacity per year, kW	799270
Electricity output from 1MW of heat in the Zorg Biogas oil converter, kW	200
Electricity generated from heat, kW	159854
Imposed electricity tariff, hrn. / kW	1,90

Thus, the total annual electricity from the biogas unit is 1095000 kW / year + 159854 kW / year = 1254854 kW / year. Taking into account the current price for electricity, the associated activities on the operation of the biogas unit provide additional income of 2384 thousand hrn. annually. It should be noted that almost 92 % of the costs are spent on the purchase of raw materials when functioning of a fertilizer production center as a separate economic unit. Labour costs are minimal due to a high level of technological equipment automation. Only 1 operator is involved in its maintenance. Significant fragmentary expenses are also recorded for operating ones, which are implemented in accordance with the Zorg Biogas plan (table 3).

Table 3

Operating expenses for the Zorg Biogas maintenance plan when modeling the investment project [calculated by the author]

Biogas unit operation period, year	Cost per year (% of project cost)	Type of work
1, 2, 3	1,4	Scheduled maintenance
4	4	Scheduled maintenance and mid-level repair
5, 6, 7	1,4	Scheduled maintenance
8	12	Major repair

Taking into account these input parameters, the investment model of the project of organic fertilizer production from anaerobic silage treatment was formed; the main indicators of investment efficiency of the model are presented in table 4.

In order to determine economic efficiency of the project, the net benefits of its implementation are identified, that is, the difference between the net benefits of the

project implementation and the net benefits of the project abandonment is found. In the «no project» situation, all indicators are zero, as an enterprise is building new production lines.

Table 4

Investment attractiveness indicators of the project on formation of organic fertilizer production from anaerobic silage treatment [calculated by the author]

Indicator	Value
Investment size, euro	750000
Discounting rate (according to the account rate of National Bank of Ukraine),%	13,50
Payback period – PB, years	4,30
Discounted payback period – DPB, years	6,83
Average rate of return – ARR, %	25,63
Net present value – NPV, hrn.	6078553
Discounted Profitability Index – DPI	1,30
Internal Rate of Return – IRR,%	21,72
Period of calculation of integral indices, years	10

From table 4 we conclude that if the project is financed to the amount of 750 thousand euros, then the NPV index for 10 years of the unit operation will be 6078,6 thousand hrn., which is a criterion for economic expediency of the project. The major repair of the unit is planed for 8th year of its operation, after which the unit will continue to operate.

The dynamics of the project revenue arranged by the years is presented in fig. 2. The payback period of the project from the moment of putting into operation will be 4.30 of the reporting period, i.e. 5 years (4 years and 3 months). With discounting rate of 13.5 %, the payback period is 6.83 years, that is, the cost of the project taking into account the change in the value of money over time will be paid off over the 7th year. That is, when making investments over the sixth year and in the subsequent years of project implementation, economic benefits will be obtained. The internal rate of return (IRR) of the project will be 21.72 %. Investment efficiency will be 130 %. The return on investment of the project will be 21.72 %, which also indicates a sufficient return on investment.

Attractiveness of any project is determined not only by the planned indicators of the economic model, but also by its ability to withstand possible risk situations. Based on this assumption, the one-parameter analysis of sensitivity of the investment project was made. The decisive parameter for the implementation of most investment projects is the price position of a product that is proposed to be produced during the analyzed period. In this particular case, this parameter is purely theoretical, since the organic fertilizers produced are planned to be used within the accepted land use

model. The value of conditional profitability of fertilizer production can be used as a measure of reinvestment or capitalization of an agricultural enterprise, namely its resource base. As part of the assessment of the project investment attractiveness, price indicators are accepted at the level of current European prices, because under Ukrainian conditions the supply of such a product is significantly limited.

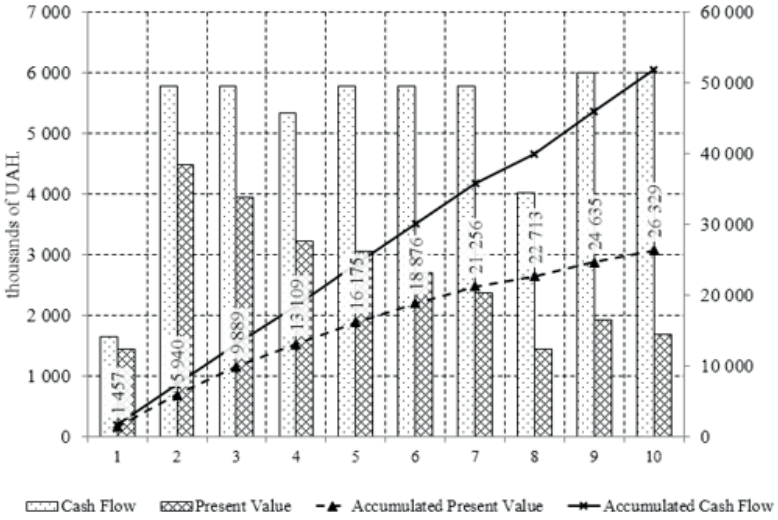

Fig. 2. Dynamics of the project revenue arranged by the years [developed by the author]

Another important parameter of the financial and economic model that affects investment attractiveness of the project is the cost of raw materials. Within the framework of the modeling of conditions, 6 situations were identified:

– the current situation, with the estimation of raw materials – silage at cost of 800 hrn. / t;

– option of purchasing raw materials at market prices, which are agreed at the level of 1000 and 1200 hrn. / t;

– option of using raw materials with their estimate at liquidation prices (about 0 hrn. / t) when processing lots of substandard feed.

The results of the change in attractiveness of the investment project obtained during the simulation experiment are presented in fig. 3. According to the results of the analysis from fig. 3, it can be concluded that the use of corn silage as a raw material for the production of organic fertilizers at production cost up to 600 hrn. / t enables to maintain a sufficient level of investment attractiveness of the project while ensuring the appropriate competitiveness of agrotechnical measures to restore the productive state of agricultural land resources, for example, corn sowing along with perennial grasses.

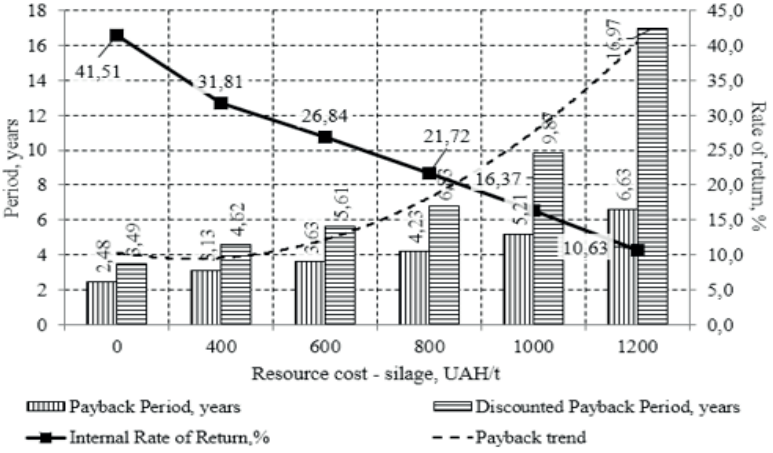

Fig. 3. One-parameter analysis of sensitivity of the investment project for organic fertilizer production to changes in the cost of raw materials [made by the author]

Orientation to use purchased corn silage as a raw material does not sufficiently reveal the financial and economic efficiency of the economic model of production of organic fertilizers from the processing of crop products. Let us determine that at cost of raw materials above 1200 hrn. / t, the internal rate of return of the economic model reaches critical values, falling to a level lower than the accepted discount rate (13.50 % – at the account rate of National Bank of Ukraine).

On the other hand, this fact can be seen as positive, because it eliminates the competition of forage, technical and energy use of the main products of an agricultural enterprise. That is, if an enterprise specializing in crop production when using renewable crop rotations has demand for forage resources, then ensuring a high level of competitiveness will not enable to use this resource for the production of fertilizer or fuel. The problem of competition between food and technical uses is a serious challenge for the sustainable development of agricultural enterprises.

Thus, the cost factor of raw materials contributes to the conditions of maintaining the competitiveness of agricultural enterprise actions aimed at ensuring the efficiency of land use and impedes the development of competition in the way of priority use of crop products.

Additional information on investment attractiveness of the project for implementation in the economic conditions of Ukraine is provided by a simulation modeling of sensitivity of the project to changing the need for investment resources. This circumstance can be described by the conditions when irreversible funds are attracted to finance the process of manufacturing capacity formation, for example, grants, state support, etc. In this case, the estimate of the own investment changes for the project initiator.

Today, when providing the conditions of anaerobic fermentation of crop raw materials, foreign technologies and building materials are used. Encouraging the development of own technological innovations in biogas production as a technological platform can be good for attractiveness of the project and reduce the investment pressure on the project initiator. In fig. 4 we can see the results of the simulation experiment in determination sensitivity of the economic model to the change in the need for investment resources. Within the model of the simulation experiment, a 15 % rate of change in the need for investment was accepted.

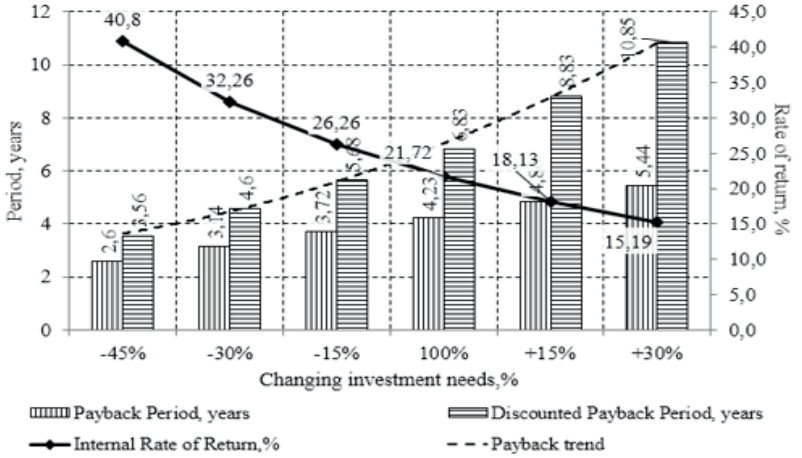

Fig. 4. One-parameter analysis of sensitivity of the investment project for organic fertilizer production to the change in the need for investment resources [developed by the author]

According to the results of the analysis in fig. 4, it can be concluded that the cost of generating production capacity has a meaningful effect on investment attractiveness of the project. It should be noted that such a situation can be explained by participation of the estimated cost of the project in the manufacturing model of organic fertilizer production. This is due to the fact that the cost of scheduled maintenance under the program of the contractor Zorg Biogas is determined from the cost of the equipment involved.

Regarding the actual data, it should be noted that increasing the project cost from the base cost by more than 40% is critical for the project implementation with the accepted technological line. It is necessary to point out that such a situation can be triggered by strong currency fluctuations, because the project uses a European supplier with payment in euros. Increasing the need for investment resources by 15 % and 30 % significantly reduces attractiveness increasing the discounted payback period by 1.5 times.

As for reduction of the need for investment resources, lowering the volume of own investments by 50 % makes it possible to reduce the payback period by 1 year and to ensure the capitalization of resources of an enterprise in a limited period. Determining the effective amount of change in the cost of investment resources, we note that optimal conditions are provided with a 15 % reduction in demand. Further reduction means greater benefits, however, even at 15 %, the payback is provided during one cycle of a typical crop rotation accepted in testing.

Thus, the investment need factor for the project implementation determines the main incentive for agricultural land users to use land effectively, so support by stakeholders, including the state, to implement such projects is decisive. In this case, the support is not limited to financial aid, but also focuses on innovative development of domestic agricultural production.

The results of the study of technical and technological innovations in different sectors of the national economy allow the «black box» to be manifested. In our opinion, these conditions and requirements can be implemented by organizing organic fertilizer production based on biogas units. In this particular case, biogas units are an effective tool that accelerates the conversion of plant components to organic substances like in animal digestion, at a higher rate of this process. That is, obtaining organic fertilizers in a fast mode is ensured. The by-product – biogas – is a product that provides economic results as a source of competitiveness of resource-oriented land use.

The results of the one-parameter analysis of sensitivity of the efficiency to market valuation of the cost of forage crop products allow us to conclude that the proposed mechanism enables to obtain an effect for ensuring competitiveness: the lower price can be offered by potential consumers of forage products, the higher the efficiency of fertilizer production is. Therefore, the problems of an agricultural enterprise turn to economic benefits.

As part of the project of organizing organic fertilizer production based on biogas units, it is envisaged to remove part of the main products, the sale parameters of which do not meet the planned indicators of efficiency or sustainability. On the basis of the biogas unit, it is proposed to form an appropriate flow of products to ensure competitiveness of the accepted model of agricultural land use.

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MANAGEMENT PECULIARITIES OF AGRO-PROCESSING ENTERPRISES MARKETING SYSTEM IN THE CONDITIONS OF GLOBALIZATION

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The current development of market relations in Ukraine determines necessity for highly competitive products of Ukrainian enterprises, in particular agro-processing ones, which implies the intensive production development, and also requires improvement of the organizational methods of production and economic activity. The mechanism of market instruments, the main of which is the formation of marketing at agro-processing enterprises must be improved. The peculiarities of marketing in the agri-food economy in the conditions of globalization are determined by the nature of the needs that it must satisfy, in particular, the mechanism of demand formation for agricultural products, features of the agri-food industry as a branch of material production and its products as goods, as well as the peculiarity of formation, functioning and development of the system of market relations in this sphere of economy, which actualizes the subject of this research.

Clear understanding of marketing nature and content is necessary for effective implementation and use of marketing at agro-processing enterprises.

Marketing as a special kind of activity emerged in the seventeenth century in

England. Even then, the local sale of goods and their export outside the country were performed mainly with the participation of specially formed intermediary market services [5]. A great number of marketers associate marketing only with sale activities. This characteristic is traced to the first definition made in 1960 by The American Marketing Association. According to this definition, marketing is the implementation of various types of economic activities which direct the flow of goods and services from the producer to the final or intermediate consumer [3].

According to the definition of British Institute of Marketing and Sales Management, marketing is a type of creative management activity that contributes to the expansion of production and commerce, as well as the increase of employment by identifying consumer requirements, organizing researches and development in order to satisfy these requirements; marketing connects production potentialities with sales potentialities for goods and services, determines the nature, direction and scale of all work, required to gain profit from the sale of the maximum quantity of products to the final consumer [3]. According to I.L. Akulych, marketing is an applied science that combines both its own methods and methods borrowed from other fields. The own methodology can include the following components: market research, marketing mix, etc. [1]. They are organically supplemented by methods of other sciences: microeconomics (definition of elasticity and market equilibrium); mathematical statistics and econometrics (methods of economic analysis, forecasting and modeling); psychology, computer methods of economic analysis, etc.

However, marketing problems, focused on regional, cultural and sector specificity in the conditions of globalization are remained unsolved. The concept of marketing emerged in the United States in the 10-20s of the twentieth century. Marketing appeared as a reaction to such negative manifestations of a booming «wild» market as excessive spontaneity, unpredictable development, unordered competition, permissiveness, increasing tendencies to monopolization, etc. All these factors threatened with serious economic and social crises. But business executives took this direction into account only in the early 1950s, due to the significant market saturation (US market) and the fierce competition. This fact aroused the considerable scientific interest, and resulted in a large number of scientific works abroad. Due to the rapid marketing evolution, a great quantity of definitions, terms, concepts, etc. have been accumulated in the field so far.

It is necessary to decide what is meant by marketing. There are many definitions that have been formulated by both domestic and foreign marketers. We consider the most famous and important of them in order to formulate the definition that will be the basis for the further study. So, the term “marketing” (English “market”), which literally means market activity, appeared in American economic literature in the early twentieth century. During this time, many definitions of marketing have been developed: from the shortest to the most detailed ones, covering the goals, principles, functions and methods of marketing [8].

Marketing definitions can be combined into two main groups: classical and

modern. In the classical sense, marketing is defined as an entrepreneurial activity, aimed at promotion goods and services from producer to buyer or consumer. A broad range of marketing was formally recognized by the American Marketing Association (AMA) in 1985, when the traditional definition of marketing, approved in 1960, was replaced by the following: «Marketing is a process of planning and implementing the project, pricing, promotion and realization of ideas, products and services through the exchange that meets the needs of individuals and organizations» [4].

According to the definition of a well-known marketing specialist Professor F. Kotler, «marketing is an activity aimed at satisfying people requirements through exchange» [5]. And English specialist J. Steiner shares the point of view that marketing is a task of management in the strategic planning and regulation of the enterprise in order to implement profit programs that will meet customer needs; a task that involves the integration of all forms of activity (including manufacturing, financial and marketing) into an updated system of actions [6].

One of the leading economists P. Drucker says that the purpose of marketing is to make sale efforts unnecessary. Its purpose is to know and understand the consumers so that the product or service absolutely satisfies them and sells itself [2].

A more precise definition of the "marketing" concept was proposed by A.V. Korotkov. Marketing is an activity aimed at achieving the market goals of enterprises, based on the principles of an open feedback management system. It focuses on achieving the market goals of the enterprise and improving its position on the market based on the study and satisfaction of consumer requirements as a result of a comprehensive impact on the consumer and the demand by means of setting parameters of the marketing complex [7]. The first part of this definition does not specify which management is used – direct or feedback, but it separates the purpose of the enterprise and the way of business activity. The purpose of marketing is to develop the enterprise, improve its position on the market, and the way is to meet the needs of consumers.

Therefore, marketing in our understanding is a combination of relations and services of a market organization that through intermediation provides the necessary delivering goods or services from producer to buyer, creating favorable conditions for entrepreneurship in order to fully meet the needs of consumers.

A clearer understanding of marketing as an instrument of strategic management gives the essence of the marketing concept. The concept offers scientifically substantiated linking of such components as idea, strategy, instruments and goals. In this context, the concept of marketing is a scientifically substantiated idea (project) of organizing and managing marketing activities of an enterprise. Often the concept is considered as a system of basic ideas, general design and philosophy of organizing activity of a firm or an individual entrepreneur, the direction of his actions [3. 9].

According to F. Kotler, one of the founders of the modern marketing theory, there are five basic concepts: the concept of production improvement, the concept of product improvement, the sale concept (intensification of commercial efforts), the concept of

«pure» marketing and the concept of social and ethical marketing [5]. These concepts help to reach the compromises of the interests of enterprises (organizations), consumers and society and to find new forms of their mutually beneficial relations.

Table 1

Evolution of marketing concepts [author's development on the basis 6]

Years	Concepts	Idea	Main instruments	Main purpose
1860 – 1920	Industrial	Increase in production of goods	Cost, productivity	Production improvement, sales growth, profit maximization
1920 – 1930	Goods	Production of qualitative goods	Measures of production policy	Improvement of consumer properties of goods
1930 – 1950	Sale(intensification of commercial efforts)	Development of sale chain, sale channels	Measures of sale policy	Intensification of sales through marketing efforts to promote and sell goods
1960 – 1980	Traditional marketing	Production of goods which consumer needs	Marketing complex (marketing-mix)	Meeting the gaps of target market needs
1980 – 1995	Social and ethical marketing	Production of goods which consumer needs, taking into account the requirements of society	Research and consideration of social and environmental consequences of the firm production activities in the further development	Meeting the gaps of consumer needs while saving all resources and preserving the environment
The second half of the 1990s	Innovative marketing	Production of new products and services that satisfy the requirements of the current stage of scientific and technological progress (STP)	Use of the latest technologies, introduction of new interactive methods of consumer research and communication with many participants of the innovation process	Satisfying the needs of consumers for new qualitative products, forming an "educated" (new) category of customers

Modern marketing differentiates the stages of marketing concepts evolution, referring to the approximate years of their implementation, basic ideas and used

instruments [10]. The table 1 shows the evolution of marketing concepts according to these characteristics

According to the data, it should be noted that the concept of production improvement is one of the oldest (the end of the nineteenth century) and is based on the improvement of production and the increase of distribution system efficiency [6].

The current development of market relations of the enterprise and consumers indicates that the traditional marketing concept changes the sale concept content, providing customer orientation, supported by a complex aimed at meeting the needs of the market events. The marketing concept begins with identifying real and potential customers and their needs; defining the enterprise long-term and short-term goals which can only be achieved by meeting the needs and desires of the certain consumer groups. Thus, in the process of establishing market economy, when market demand and supply were changing, relations between the main market participants were becoming more complicated, their competition was increasing, views on marketing activity and its concepts were changing, the emphasis shifted from production to sale, then to satisfaction of consumers requirements. So, growing orientation on changeable consumer needs and social aspects finally appeared. There are many circumstances in public life which determine the type of marketing and, as a result, the effectiveness of its implementation in the specific circumstances. Today, a lot of scientists often consider marketing as an element of cultural life and even a peculiar mechanism for forming a new culture. However, effective marketing is impossible without considering the peculiarities and conditions of different countries development. This is an important problem for affecting the audience due to the fact that ethnic peculiarities of perception, thinking and behavior play an important part in planning and conducting advertising campaigns, while commercial structures enter the markets of other countries or other regions [5].

Let's consider these circumstances in the form of a bipolar system. In reality, the number of alternative changes will depend on the specific group of consumers and talent of the marketer in finding effective actions to develop and expand the market for manufactured products.

The first direction is closely connected with the processes following the processes of globalization and transnationalization of the national economy of states and regions. Enlargement of the European Union was accompanied by the major socio-demographic changes within the integration group. In 2008, the EU ranked the third place in the world in terms of population after China and India, if we consider the EU as a whole unit. The International Institute for Systems Analysis estimates that the EU population will grow by only 30 million to 527.7 million (if territorial expansion is not taken into account) by 2030. If we imagine that the migration growth will be zero, the EU population will be reduced to 493.7 million people. Considering that the process of population getting old have been growing within the European Union, it might be told that the area is doomed to demographic stagnation and aging without territorial consolidation and migration.

An illustrative example, the population in Germany will be reduced to 81 million people by 2030. Moreover, if there is no influx of immigrants, the population will decrease even more – up to 76.9 million people. Italy is in a similar situation, it will lose 1.4 million people by 2030. The population in many new EU member states – Romania, Poland, Bulgaria, Hungary, Czech Republic, Lithuania, Latvia, Estonia and Slovakia is also reducing [8].

So, the role of migration growth in changing the EU population is currently very significant. Overall, about 75 % of the population growth in the EU is immigration. Crossing the boundary density with foreigners creates conditions for the formation of significant communities with the appropriate location. For example, in the UK, Asian migrants live mainly in Greater London, Greater Manchester, Birmingham and the surrounding area of Yorkshire (city of Bradford is called «small Pakistan»). In France, there are at least 10 million citizens with at least one foreign parent. Most of them live in Greater Paris (38.3 %), the districts Rhone-Alpes, centered in Leon (12 %) and the Alpes-Cote d'azur, between Marseille and Nice (8.4 %). In Germany, there are similar tendencies: the largest number of migrants resides in large cities (Berlin, Munich, Hamburg, Frankfurt am Main, Cologne, Stuttgart). In the last three cities, as well as in Offenbach, the part of migrants reaches 20 % of the total population. In the western cities there are already areas of ethnic enclaves – China-town, Arab, Indo-Pakistani blocks, etc.

Obviously, effective marketing should pay much more attention to reaching the multicultural audiences, as their representatives play a significant role in the aggregate purchasing power of many countries. At the beginning of globalization, theories that claimed that internationalization would create common world cultural environment, or at least prepare its emergence were popular. As a result, cross-cultural communications would become easier. Many scientists set the products of such transnational companies as «McDonald's» or «Coca-Cola» as an example, creating a benchmark for markets and, therefore, affecting the basis of different cultures that have acquired similar traits around the world. Indeed, now many goods can be found all over the world, but this is no longer characteristic of transnational corporations.

The issue of cross-cultural marketing development has been updated with the inclusion of Ukraine in the European integration processes since independence, according to the official statistics. Thus, according to the statistics, the population of Ukraine at the end of 2018 consisted of 77.8 % ethnic Ukrainians, Russian (17.2 %), Belarusian, Moldavian, Crimean-Tatar, Bulgarian, Hungarian, Polish, Jewish, Armenian, Greek, Gypsy, German, Gagauz, Slovak and other minorities. From 1991 to 2018, the number of relatively new ethnic minorities such as Azerbaijanis, Georgians, Koreans, Uzbeks, Chechens, Chuvash, Mordovians, Kazakhs, Ossetians, etc. has significantly increased. At the same time, representatives of some completely new ethnic groups for Ukraine have been identified: Arabs, Afghans, Chinese, Vietnamese, Hindus, Pakistanis, Kurds, Persians, etc. Ukraine is becoming a part of the European migration movement,

repeating the general tendencies of social change [7].

At the same time, the world practice of developing value-based marketing demonstrates the experience of concentrating particular attention on the national priorities. This is proved by the growing number of advertising agencies specializing in the knowledge of ethnic characteristics and creation of adequate advertising messages for them [9]. For example, in Australia there is «National Multicultural Marketing Awards», which is awarded to the companies that promote products based on the specifics of the Australian people. As the description says, the award is given to the modern companies that encourage cultural diversity [10]. Ethnic features of behavior and perception of information affect value orientations. Therefore, to achieve the maximum result of any information flow, it is necessary to match the values, reflected in the message with the values of the society for which this message is being sent.

Thus, simultaneously with the great development of cross-cultural marketing technologies, the task of which is to maximize the audience, the ethnic marketing technologies, focusing on national values and ethnic flavor are becoming increasingly important too. The domestic ethnologists and sociologists note that, the independence of Ukraine and the development of its own nationality contributed to the gradual ethnic remarginalization and reidentification of the corresponding part of Ukrainians by origin both on the territory of Ukraine and abroad. This regularity also relates to the representatives of various ethnic minorities in Ukraine. In this case, the task of developing an effective marketing system is to find the optimal proportions of cross-cultural and ethnic activities of the marketing system under the given market conditions and enterprise development goals.

Thus, the transnational environment is characterized by a high influence of tendencies towards standardization of goods and services, and is preserved by the forces striving to guide enterprises towards adaptation to the conditions of an individual market. On the one hand, it should provide the unified approach to entrepreneurship in different countries, and on the other hand, take into account the peculiarity of the markets of these countries. As ethnocentrism and polycentrism are very strong, transnational environment is the most difficult for the organization of marketing activities of the firms. In accordance with these two forces which affect the ethnocentric and polycentric international development of the enterprise, it is proposed to distinguish three types of marketing: cascade, global and transnational. One of three types of marketing can be used in a neutral environment [3].

Cascade marketing, while deeply adapting to the market conditions of any country, satisfies consumer requests quite accurately, but due to the great complexity and accuracy of consideration of the marketing complex changes, performs it rather slow. Due to the peculiarities of this marketing type, the main focus is not on the speed of change according to needs, but on the marketing complex correspondence to the market demands.

In global marketing the leading role is played by timely transition to the new

marketing complex in accordance with customer requests, because only standardized products or services are sold. In this regard, global marketing is at high risk of failing because of untimely satisfaction of consumer requests. However, global marketing potentialities to meet the qualitative needs of the market are limited, which in the context of mass demand for goods and services forces firms to use transnational marketing. At the same time, as the number of markets grows, the company is increasingly forced to turn to globalization, taking into account the peculiarities of the individual markets. An enterprise can not always stop its development while expanding the number of new markets in global marketing, because competitors can gain advantages due to the concept of transnational marketing.

Within cascade marketing, to increase the number of markets is not so important in comparison with the profitability of foreign economic activity. Since the internal and external marketing complexes do not coincide, the task to save on production volume is not usually set from the beginning. The success of global marketing, by contrast, is determined by the number of countries where the standardized marketing complex can be applied. Transnational marketing makes it possible to occupy the international markets on the larger scale thanks to the combination of cascade and global marketing advantages [2].

The increase of firm competitiveness is also connected with the types of marketing.

Cascade marketing is used by firms primarily to determine the needs of the individual country market, which undoubtedly contributes to the creation of high quality goods and services. At the same time, it is impossible to save on the production volume. So, the firms have rather limited capabilities in price competition. Small number of markets within cascade marketing compared to other types of marketing restricts the firm's capabilities. A dramatic change in the market conditions even in one country can complicate the financial position of an enterprise and weaken its competitiveness on the international markets. Global marketing, in comparison with cascade marketing, improves two of the three components of a firm competitiveness: production cost and the number of countries where the firm enters the markets. However, standardized goods, supplied to the markets as a result of this type of marketing, are not always capable of meeting the needs of consumers to the full, which reduces the firms' competitiveness.

Transnational marketing enables to reduce costs compared to cascade marketing, but not below the level of global marketing, and by adapting the products to the markets of each country contributes to the creation of products or services which satisfy the requirements of the market more accurately. At the same time, the potentialities of transnational marketing are much greater than the global marketing potentialities in the opening of new markets.

Therefore, marketing activity in the context of globalization is a challenging process, but it is still accepted by society as an inevitable and very complicated process, similar to a new path to a «bright future» for humanity. This process opens up new opportunities, but it also has negative consequences. The positive impact of

globalization is related to the effect of competition, to which it inevitably leads, and the negative impact is connected with the potential conflicts in which it is rich. The problems of globalization can be solved through broad international cooperation, strengthening of existing ones and creation of new international institutions.

The modern formation of the international market relations is a complicated and contradictory phenomenon. In the new millennium, it is necessary to have firm guidelines for economic integration and a strategic action plan embracing clear understanding of the basic principles, main priorities, sources and mechanisms of economic development. It is essentially to determine the way to achieve a sustainable increase in the standard of living.

In the long term, the formation of transnational enterprises in the context of the national economy globalization will remain the sphere of rivalry of two approaches to the integration into the world economy:

1. The policy of the direct connection to the system of world labor division (individual enterprises, industries, regions and so on). This approach in marketing is connected with finding and locating domestic enterprises in the existing world production and sale systems, in which they will be able to realize their own national competitive advantages.

2. The policy of joining the world economy, actively using the integration potential within the domestic economy. This approach in marketing is connected with creation of domestic production and sale systems with active involving of resource, technological and other opportunities of the world economy for the formation of the target competitive advantages.

This dilemma affects the creation of a regulatory framework for integration processes, which significantly suppress the development of integration processes in the world economy. The main reason for this is the lack of clear understanding of the priorities and goals of the state development. Hence, the main idea of the country development, the main idea of European Ukraine must be the increase of the national economy competitiveness. Ukraine seeks international cooperation, but this cooperation should not be used for the unilateral delivering of domestic raw materials, but for a radical structural restructuring of the economy, for technological modernization of the Ukrainian processing industry.

Ukraine faces a strategic goal to change its raw materials international specialization by ensuring high technology of industries, that is, providing conditions for the development of industries producing competitive products on the world market. It is necessary to change the unfavorable international raw materials specialization for Ukraine due to the processing industry development; to specialize in the production of «smart», competitive products which come to the fore in the modern world. The peculiarities of marketing of agro-processing enterprises in the conditions of globalization are determined by the wide development of transnationalization in all branches of business. This process is accompanied by the wide development of cross-cultural marketing technologies, which aim is to expand

the audience. But the ethnic marketing technologies with a clear concentration on national values and ethnic flavour are becoming increasingly important too. The specific character of modern life requires agro-processing enterprises to carry out a thorough analysis of the processes on the market to ensure effective use of scarce available resources and quality satisfaction of consumer requirements. Marketing activity is considered to be an element of people's cultural life and even a peculiar mechanism for forming a new culture.

Taking into consideration the current development of markets, which in most cases is characterized by an orientation on consumer preferences, it is necessary to expand the functional characteristics of modern marketing of agro-processing enterprises, including a synchronizing role. The synchronizing role of marketing is to find the optimal proportions and parameters for changing the entrepreneurial behavior of agro-processing enterprises in order to gain the appropriate sales market and the degree of impact on the consumer's consciousness of the offered products with the purpose of obtaining the planned competitive advantages. So, in the process of business transnationalization, the task of developing an effective marketing system for agro-processing enterprises is to find the optimal proportions of cross-cultural and ethnic activities of the marketing system under the given market conditions and goals of the enterprise development.

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ENVIRONMENTAL MANAGEMENT SYSTEM OF MODERN ENTERPRISE

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Today, in the extremely complicated environmental situation in Ukraine, the study of environmental management at enterprises is a burning and topical issue. Pollution of the environment by industrial production waste and emissions of all types and inefficient use of resources by enterprises increase the relevance of this problem. Implementation of the efficient environmental policies at enterprises will promote the improvement of the environment at the macro level, and help to retrench resources and reduce the costs at the micro-level.

In the conditions of the ecological crisis aggravation in the world, it is a top-priority task of the enterprises to seek out the ways to renew ecological balance initiating and introducing effective legal regulations. The main trends characterizing the state of environmental safety show that two-thirds of harmful substances get into the air from the stationary sources of pollution at the industrial enterprises, the environment protection activity of which is not regulated by coherent normative documents. At the state level, environmental policy should lay emphasis on the main tools and factors of influence on the environment situation. They must comprise both managerial and market-oriented issues. Currently, the environmental status in Ukraine is regulated via standardization and coordination of the ecological norms. Moreover, while the standards are clear and binding, the norms of the environmental activity determine the limits within which it operates, affecting the environment [2].

According to the international standard ISO 14001, the environmental management system is a part of the general management system, which includes organizational structure, activity planning, distribution of responsibilities, practical work, as well as procedures, processes, and resources for development, implementation, evaluation of the achieved results and improvement of environmental management policy, its goals and objectives [1]. In terms of the above provisions, environmental management of the enterprise is a proactive and productive activity of the economic entities, aimed at achieving their environment safety objectives and implementation of the projects and programs, developed on the basis of eco-efficiency and environmental justice principles [5, 7].

At the national level, environmental management is regulated by the provisions of the State Standards and Technical Specifications (DSTU). In 1997, Ukraine adopted the international standards of the ISO 14000 series. Companies are obliged to observe clearly defined requirements of the document. Thus, according to ISO 14000: 2004, they must design, implement and uphold the production processes in the proper condition, which allows them to identify the probability potential for

disasters or emergencies which may affect the environment. In turn, we can not ignore the emergencies that business entities are obliged to respond to, in particular, by mitigating the effects or preventing their negative impact on the environment [8].

At the international level, the regulation of environmental management is carried out in accordance with the international standards developed by the International Association for Standardization of the ISO 14000 series. The decision to introduce ISO 14000 norms is the result of the Uruguay Round of negotiations under the World Trade Agreement. The ISO 14000 specifies the requirements for an environmental management system [8].

Today, the implementation and environmental management systems certification, based on the international standards ISO 14000, is considered to be the best way to win the trust of not only consumers of goods and services, but also investors. Environmental certification allows us to confirm that the enterprise and its products are safe for humans and the environment. Note that the expertise and development of environmental documentation are required both at the design stage and throughout all aspects of the company's economic activity. Timely registration of such documents allows the company to avoid penalties for non-compliance with environmental requirements and reduce costs through the accurate calculation of the eco-compensations. Eco-compensations are the payments for environmental pollution that are charged for:

- emissions of harmful substances into air;
- water pollution by the emissions into surface and groundwater bodies and into catchment areas.

In addition, eco-compensations are charged for the pollution of subsoil, soil, and other negative impacts on the environment. The certificates of quality environmental management according to the standard are compulsory for the enterprises of such industries as chemical and petrochemical, metallurgical, mining, cement, pulp and paper, mining-mineral processing, defense, nuclear power, and others.

In reality, business managers are not much enthusiastic about implementing environmental management systems, not seeing the feasibility of such systems or unwilling to see it, thus violating the requirements of the standards. However, along with this, there is a steady upward trend in obtaining certificates for environmental management systems in Ukraine. But business managers attempt to get certificates, without implementing environmental management systems. And this is another specificity of this process in the market.

Thus most managers of the enterprises without well-organized quality management pursue to get a certificate on the environmental management, not implementing the environmental management system. Despite this, quality management and environmental management systems are steadily developing and implemented.

Some enterprises develop effective programs and project to promote their environmental policy, namely organize excursions, press conferences, issue

advertising booklets and leaflets, include the information on the company's environmental policy in annual reports to major news agencies, libraries, organizations, place this information on the company's website on the Internet.

Typically, the report content is limited to listing the general statements in the field of ecology with comments describing the innovations that allowed the company to decrease either direct or indirect impact on the environment (e. g. owing to the reduction of resource consumption).

The key findings of the study show that an introduction of the environmental management systems at enterprises is a significant factor for increasing the competitive chances of the domestic companies.

In this regard, it is appropriate to determine the peculiar features of the environmental management system utilization in the enterprise management mechanism:

1. The strategic direction of the enterprise economic activity. The standard of the environmental management system is based on the assumption that the fundamental mission of the enterprise is determined, and the strategy of its development is worked out. Implementation of the environmental management principles is associated with complementing the business strategy with environmentally relevant issues as its integral components. The environmental policy is worked out within the framework determined by the mission and the direction of the enterprise development. The goals of the company's activity are predetermined by the environmental management system. Thus, implementation of the environmental management systems becomes a significant factor of influence on the enterprise strategic planning efficiency.

2. Harmonization of the organization's internal environment. One of the major postulates of the environmental management systems is the requirement for planning and consistent improvement, including strategic planning and operations management. Practical experience shows the imperfection of the management of enterprises operating on the basis of the operations management mechanism. We suggest interpreting the environmental management system as harmonization of tactical and strategic planning.

3. Business processes and organizational structure improvement. Functioning of the environmental management system is impossible without coordination or, more precisely, an interaction of all functional sectors within an organization, taking into account optimization of the organizational structure. It is this interaction that allows the company to avoid conflicts of its leading activities and environmental ones and to set adequate and obtainable environmental goals.

4. Management technologies improvement. The methodology of the environmental management system offers a wide range of tools that ensure or facilitate the coordination of the structural units and functional areas.

5. Document management optimization. Environmental management systems pay great attention to the organization of documentation management in the enterprise functioning. In terms of the requirements specified in the ISO 14001 series

standards, it is possible to manage the documentation system of any complexity and do it effectively.

6. Development of human resources management. Qualified, motivated staff is required to implement environmental management systems and improve approaches to develop a high-quality managing of the organization. Competent training and motivation can strengthen the enterprise, increase the interest in its success, and the desire of the employees to promote this success. An important prerequisite for achieving the desired result is a company's all-round support for the implementation of environmental management systems. The positive result will be negligible without such support.

We argue that all of the above features of environmental management systems can lead to a positive result only if they are successfully implemented in the enterprise management system. In most cases, the level of management development is rather low in the companies of Ukraine. For them, implementation of the environmental management system means practically complete restructuring of the existing management system at the enterprise [3].

We have distinguished between the following reasons and advantages for the introduction of the environmental management system in the enterprise:

• continuous production and operating costs reduction, more efficient use of raw materials, energy and other types of resources, reduction of costs related to the company's environmental impact;

• feasibility for the enterprise maneuvering in the competitive counteraction in the domestic and international markets;

• adjusting the enterprise activity to the provisions of the environmental legislation;

• increasing investment attractiveness;

• providing a favorable image of the company in public and among consumers;

• gaining new recognition opportunities internationally and in the world markets;

•actualization of the additional opportunities to prevent the environmental emergencies and accidents, typically resulting in damage or injury at the enterprise, and can provoke significant pollution and financial losses;

• reducing the negative impact on the environment via better management and motivation.

Environmental expertise and environmental audit are the most frequently used environmental management strategies at Ukrainian enterprises. In view of the described above advantages, every rationally-minded business should carry out an environmental assessment or ecological expertise of all its projects, which are regulated by the laws of Ukraine On Environmental Protection and On Environmental Expertise. It is one of the most effective mechanisms able to guarantee environmental security since it combines independence, publicity, social justice, ensures citizens' constitutional rights to a safe living environment, an appropriate level of the health care, and high-quality environment. The Law of Ukraine On Ecological Expertise

considers ecological expertise as a kind of scientific research and practical activity of specially authorized state bodies, ecological expert formations and associations of the citizens, which is based on inter-sectoral ecological research, analysis and evaluation of the pre-project, project and other materials, implementation and the performance of which may adversely affect the state of the environment. The project expertise is aimed at providing conclusions about the company's planned or current activity compliance with the standards and requirements of the legislation on the environmental protection rational use and renewal of the resources. The principal aim of it is ensuring environmental security.

The main objectives of the environmental expertise are: to reveal the degree of environmental risks and safety level of the planned or current activity; organization of complex, scientifically-grounded assessment of the facilities, identification of the compliance of facilities with the regulations of the environmental legislation, building codes and standards, assessment of the enterprise facilities activity impact on the state of the environment and the quality of natural resources, evaluation of the effectiveness, completeness, validity, and adequacy of environmental protection measures, preparation of the objective and well-reasoned conclusions [4].

An enterprise that has introduced an environmental management system ought to be systematically audited to improve the effectiveness of the system. If the verification confirms that the system complies with the requirements of the international standard, the enterprise shall be entered in the appropriate register and shall have every reason to use a certain eco-label, indicating it on the product label or packaging.

It supplements the environmental management system attractiveness for the investment projects and significantly increases consumer's interest in the company's products or the services provided. The effective functioning of the environmental management system and certification of the enterprise is one of the significant advantages of any company in the competition.

It supplements the environmental management system attractiveness for the investment projects and significantly increases consumer's interest in the company's products or the services provided. The effective functioning of the environmental management system and certification of the enterprise is one of the significant advantages of any company in the competition.

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NEW MARKETING DIRECTIONS

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Marketing Directions – a projection of classical marketing processes of a new marketing concept on marketing processes with use of new technologies' possibilities. This fact allowed distributing marketing trends to the following four groups. Directions based on the changed marketing concept:

- personalization;
- inbound marketing;
- content marketing.

Marketing directions based and regulated by the results of processed data based on statistical methods and methods of unstructured data processing:

- data-driven marketing;
- marketing automation.

Marketing trends created by adaptation to the Internet, social media:

- SMM (social vedia varketing);
- viral marketing;
- guerrilla marketing;
- search-engine marketing;
- gamification;
- email marketing.

Marketing directions using the space created by mobile networks and devices technology. It is characterized by ubiquity and accessibility:

- vobile marketing;
- geo targeting;

- personalization.

Personalization means the use of technology to meet differences between people. Personalization methods allow you to dynamically insert, customize, or offer content in any format that is relevant to the individual's personality, based entirely on his or her behaviour and preferences, and precisely specified details. Personalization uses both predicted and oral customer information obtained in two ways. First, the customer may explicitly provide some information, such as gender or date of birth, and may directly suggest the desired product.

The advantage of new markets swinging around information companies is that information can be easily differentiated, customized, personalized, individualized and sent over information networks at incredible speeds.

Thanks to the rapid Internet development and other communication technologies, companies gain experience in collecting information about their customers and business partners (suppliers, distributors, retailers) and introduce them to products, news and media.

An example of this is Dell Computer, which allows customers to accurately determine what they want on its websites and provides reports within days according to customers' own specifications.

Procter and Gambling allow consumers to formulate their shampoo needs through online questionnaire. They then create their own unique shampoo for each customer.

Individualization means that the company takes the initiative and adjusts the market offer [1, p. 104].

Personalization and customization in a website environment that is personalized based on individual characteristics (interests, social group, context). Personalization means that changes are based on implicit data, such as purchased goods or websites visits. The term customization is used when explicit data, such as rankings or preferences, is used on pages. In intranets or B2E (Corporate Business Communication) of corporate web portals, personalization is often based on the users' characteristics, as well as the separation of functional areas and roles. The term customization in this context refers to the ability of a user to modify the output of a page or specify what content should be displayed.

Inbound Marketing. This term is based on the modern marketing concept where information from potential customers is collected, about their attitudes, needs and ideas. For inbound marketing purposes, web 2.0 technology is mainly used. Inbound marketing gets its clients through direct traffic, social media links, blogs, emails, Internet PR catalogues and other functions [2].

Content Marketing. Content marketing is based on the creation and placement of useful and valuable content that attracts and involves customers in communication and business. The most successful companies in developed countries, including Coca Cola or Microsoft, use content marketing. Instead of expensive advertising, a company provides valuable and interesting information that helps and trains customers [3].

Data-Driven Marketing. This means a controlled increase in the efficiency of marketing operations based on measurement data. The method uses an increased measure of marketing efficiency, and the data obtained are processed mainly by statistical analytical methods. However, the term data-driven marketing emphasizes the vital role of data in digital marketing [4, p. 250]. Consumer data is used for:

- A/B testing sites;
- personalization of sites;
- advertising targeting
- segmentation and personalization of postal services;
- remarketing (retargeting) or precise targeting of people who have already visited a particular site.

A/B-testing – a classical marketing method for testing computer programs or applications usability, the purpose of which is to increase project conversion or

conversion coefficient by changing one functional or design element [4, p. 253].

Marketing Automation. It is a software platform that allows automating all communications of potential clients from the moment of their purchase, by taking care of them in the form of providing with the necessary information at the right time and after they have been transferred to the sales department.

The most widespread system of marketing automation is CRM (Customer Relationship Management), the system representing the management focused on the client, the business approach characterized by active creation and maintenance of long-term relations with clients [6, p. 20].

SMM. Social networks have become a recent global trend. Internet users with the appearance of Facebook noticed their biggest boom. Based on combinatorial calculations, it is likely that everyone knows each other for a maximum of 7 people. Thus, social networks represent the untapped potential of marketing environment. The general motto of social media is: Share what you like with the slides around you [7, p. 562].

I see the greatest potential of social networks in viral marketing and from lip to lip use by oral referrals of known or other authority, which is the main effect for buzzmarketing. Social networks have a huge marketing potential, including due to their massiveness. Buzzmarketing (marketing buzzing) is an unconventional form of marketing that causes vanity, fuss, brand noise, product, company or social event among customers.

Social networks are based on communication between users. Users create content that they also consume. Social networks give them the opportunity to do so, and their creators usually do not interfere with the content. This means that if we want to use social media for effective promotion, we should respect this and try not to change it [8, p. 70].

Viral Marketing. Viral Marketing (VM) – a way to convince customers to share information about a product, service or website. The term passive or tell a friend is also used in this context. Viral marketing became known in 1998 when a new free

Hotmail (free mail service) was introduced. More than 12 million users. VM was easy and inexpensive. Instead of requiring marketing campaign preparation, it is now possible to announce an attractive offer via the Internet or with a few friends via e-mail and allow consumers to work for you. This concept has a great advantage in the speed of intervention, and e-mail is an ideal tool in this regard. We recognize passive and active forms of VM. The passive form of VM relies only on the positive word of a client and does not attempt to influence their behaviour in any way. The active form of VM is to attempt to influence client's behaviour through reporting, thereby increasing product sales or brand recognition [9, p. 64].

SEM. SEM (Search Engine Marketing) – an Internet marketing on search engines. The main goal is to increase traffic to the site, in the form of paid links in search engines. This is a paid service from the search engines operators. It is a service limited in time and focused on specific search engines. SEM should be used to ensure a good position of the site, which otherwise would not be possible to achieve through proper and qualitative optimization (e.g., the reason for the great competition of equally optimized sites) [10, p. 68].

Gamification. Gamification works on the principle of game thinking and game mechanics in addition to game activity to involve its users in solving problems. Gamification is studied and used in several areas where user participation is required, such as various exercises, return on investment, data quality, timeliness and training. The results of the gamification studies show that most of the studies conducted have had a positive effect: in the Czech Republic, this method is most often used on discount portals (Wheel of Fortune, Slevomat).

E-mail Marketing. Most people in developed countries use e-mail. Its use is taken for granted, not above the standard. However, the use of email in marketing is still underestimated. E-mail is a direct and very fast channel of communication at zero cost. The use of email in marketing can be huge. From contacting selected potential customers (directmarketing), sending periodic offers (newsletters) to providing customer service. For example, the customer may receive information about new products related to the purchased item via e-mail. The customer may also be informed of the right to an internal inspection [10, p. 71].

Mobile Marketing. Mobile marketing - a form of advertising, created as a result of the mobile networks development and offering such marketers the fastest communication with customers. Mobile marketing is a huge virtual market. It is about 1.6 billion users worldwide. The main advantage of mobile marketing is the event preparation efficiency. If traditional promotion methods require several weeks of preparation before the actual implementation, the launch of a mobile campaign is a matter of days. Thus, it can react more flexibly to market needs [9, p. 140].

Geotargeting. This marketing method belongs to a group called Targeting. Companies can target a group of people who meet certain criteria. Geotargeting is one of the most widely used types which allows one to target an advertising campaign at visitors in a particular region or country. Everything is reflected from

your provider's IP address. This effective service has become the most popular type of advertising. Geotargeting is used to find the target area for the business plan [11].

Guerrilla Marketing. This method was gradually developed as a result of a hard struggle due to more intense competition. Guerrilla marketing appeared in the sixties of last century. However, compared to the sixties, its importance has changed significantly. Therefore, it is related not only to the fight against competitors, small and large, but also to the development of technology and communication opportunities in general. Its essential element, as in the case of viral marketing, is its low cost of balancing on the verge of legality. An unconventional marketing campaign to maximize the effect with minimal resources [9, p. 186].

Digital Marketing. Digital marketing – a comprehensive term covering all digital marketing communications. It also includes online marketing, mobile marketing and social media. Digital marketing is an integral part of marketing communications and advertising and information communications recipients [9, p. 41].

Affinity Marketing. Affiliate marketing (affiliated or affiliated marketing) means a number of specific ways of communicating between two or more web projects. There is a synergy between these structures with the result that both parties benefit. Partnership opportunities are significant and very often realized according to the needs of both partners. In the affiliated model, there is one supplier organization and more partner organizations with potential clients (specialized portals). Then partners receive the commission from the supplier for the involved clients. Commissions can be either proportional (client redemption percentage), or fixed (fixed sum for attraction the client who has concluded the deal) [10, p. 94].

Contextually Targeted Advertising. It's a special kind of Internet advertising. Appears on web pages in the context (content) network not in the search network, and on partner sites. CTA is displayed only on the website, the text content of which is closely related to the keywords of the advertising message. Keywords play an important role as they are very much dependent on which website the CTA is displayed on. CTA is a targeting method and does not limit the form of advertising format that can be used. CTA is particularly suitable for products that are not well known to users to search for themselves online, search engines. This spreads awareness of the product service. Contextual targeting is usually lower in clicking rankings, and CTA on the CTA network also typically has a lower conversion rate than search engine advertising [12, p. 233].

Lead Generation. The method of potential customers generating is an Internet-based method of obtaining potential customers or contacts with potential customers who have a genuine and obvious interest in purchasing a particular product or service. This marketing method takes advantage of the fact that consumers are more resistant to direct marketing and offer the opposite solution - a motivated customer who comes alone. In most cases, the lead subscriber pays for each leadership received by only one partner. Through the marketing of potential customers, companies can use expensive traders' time mainly to obtain key orders. Marketing

of potential clients is also useful for consumers who can get information about the cheapest service on the comparison site [5].

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IMPLEMENTATION OF ENERGY-SAVING TECHNOLOGIES AS AN INTEGRAL PART OF TECHNOLOGICAL RESTRUCTURING OF PRODUCTION

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Low energy efficiency is one of the determining factors of the economic crisis in Ukraine. The inefficient utilization of energy resources, irrational use of the energy carriers, and the inability to replace their supply sources are also the burning issues that require urgent solutions.

Although numerous scientific researches of such scientists as Ginzburg M., Zakharchuk O., Kaliuzhna O., Lupenko Y., Mohylova M. Pushkarevsky A., Rachynska H., Semenova T., Tomchyshen O., Khizhniak D., and others have been devoted to the use of energy-saving technologies, few attempts have been made to investigate the problem of improving the efficiency of development and use of energy-saving technologies in agriculture.

In terms of the Energy Strategy of Ukraine until 2030, the projected energy-saving potential of Ukraine in 2030 will make 318.4 million tonnes of fuel equivalent, which is almost 1.5 times the current level of primary energy consumption. Implementation of technological and structural energy supply measures will reduce energy consumption by 51.3% in 2030 – from 621 million tonnes of fuel equivalent at the current level of energy efficiency, up to 302.7 million tonnes according to the projected improved level of energy efficiency [2].

In the modern economic environment, energy-saving technologies contribute to the solution of a wide range of issues related to guaranteeing the food supply stability, preserving the environment, and meeting the growing energy challenges. Among the most complex problems of analysis of modern economic mechanisms of energy-saving (both for the world and domestic agrarian sphere) are:

– ensuring an integrated approach to the energy-saving sphere;

– analysis and evaluation of the energy efficiency of the leading agricultural sectors;

– development of recommendations for improvement of the economic structures and mechanisms of energy-

saving taking into account the specificity of agricultural production [4].

The detailed study of this problem needs to investigate first what constitutes the energy-saving process. The Law of Ukraine «On Energy Saving» states that energy

saving is «an activity (organizational, scientific, practical, informational) aimed at the rational use and economical consumption of primary and transformed energy and natural energy resources in the national economy and which is implemented by using technical, economic and legal methods»[3].

V. Timofeiev and I. Nemyrovsky argue that «energy-saving is one of the components of energy management, concerns the practical side of its activities, utilization of the advanced technologies and equipment», while the concept of energy management is much broader and involves, besides energy-saving, «introduction and use of the unconventional and updated energy sources, the development of pricing policies, the energy market rules, in the focus of which, first and foremost, are the interests of the state, and then the interests of business» [9].

The process of energy-saving in agricultural production is a complex of competent management measures aimed at achieving a concrete positive result in the production process, in view of its energy-saving efficiency. Consequently, energy-saving efficiency is a further important aspect of the issue.

According to M. Ginsburg, energy efficiency is a characteristic of the equipment, technology, production, or a system as a whole, which indicates the energy costs per unit of the final product. Energy efficiency is evaluated both in terms of quantity (energy used per unit of the final product) and quality (low, high) [1].

We believe that improving the energy efficiency process management at an agro-food enterprise is a crucial and particularly important factor in saving energy resources of the company. After all, the expansion of agricultural production is impossible without an increase in electricity consumption. The use of electricity in the production of agricultural products allows to intensify the technological processes, provides their automation and high preciseness of regulation, which leads to a significant increase in labor productivity, reduction in the material resources costs and improvement of product quality.

The impacts of the energy-saving strategies implementation on the enterprise's incomes, costs and output are determined by the correlation of the factors which have both positive and negative effect on its economic activities.

The main factors of positive impact on the profits of an enterprise may include:

1) possible increase in the productivity of the technological facilities and equipment in case of implementing energy-saving strategies, which can reduce energy consumption per unit of production and improve its quality;

2) saving energy and other resources, which leads to lower material costs and cost of production;

3) a reduction of the enterprise payments (taxes) for the environmental pollution owing to the decrease in the amount of fuel and energy resources utilization[8].

The enterprises can solve the problems of machinery and technological renewal, as well as an introduction of energy-saving technologies in agricultural production via modernization of their production facilities.

Popova O. and Kulakov O. consider modernization, which is used for the

development of fixed assets, as expansion and improvement involving a quantitative and qualitative updating of fixed assets, the intensification of production, increase in the production capacity and the level of equipment productivity. The principles that enable the production organization to influence the functioning of the production system should be at the heart of production modernization, ensuring the economic efficiency of it. That is, a high economic efficiency of the production should not be based merely on the reduction of the production costs. Enterprises, along with the resource-saving strategies implementation, should strive for achieving a stable work of the enterprise, producing high-quality products, intensifying the production processes. It is essential to assume an increase in the production efficiency as a possibility for an enterprise to expand its presence in the market.

The main explication of this is insufficient systematization of the proposals regarding the urgent state support steps for the introduction of advanced technologies and technical means, which can increase the competitiveness of the agricultural products by energy and resource-saving technologies. Lack of strategy to stimulate investments in national machinery for agriculture is also the impediment on the way of modernization [5].

Table 1 shows the regulatory needs for fixed assets for agricultural production for 2020 and 2025 in UAH billion equivalent.

Table 1

Regulatory needs for fixed assets for agricultural production for 2020 and 2025 in UAH billion equivalent

Fixed assets	Agricultural enterprises		Households in rural areas		All types of farms	
	2020	2025	2020	2025	2020	2025
Buildings, constructions, transmitting devices	382,6	488,3	157,8	201,4	504,4	989.7
Machinery and equipment	272,1	347,2	112,2	143,2	384,3	517,4
Vehicles	59,5	76,0	24,5	31,3	84,0	107,3
Productive livestock	41,6	53,2	17,2	21,9	58,8	75,1
Perennial plants	8,5	10,9	3,5	4,5	12,0	15,4
Measuring instruments, equipment, tools, etc.	85,9	109,5	35,5	45,3	121,4	154,8
Total	850,2	1085,1	350,7	447,6	1200,9	1532,7

Source: calculations of the researchers of NSC Institute of Agrarian Economy [5]

According to the calculations of the NSC Institute of Agrarian Economy, the regulatory needs for fixed assets for agricultural production for the period until 2025 are determined by the sum of UAH 1532.7 billion for all categories of farms,

while the actual availability of cost is 523.3 billion UAH. For instance, the need for machinery and equipment is UAH 384.3 billion for 2020 and 517.4 – for 2025, while their actual estimated value is UAH 1633.6 billion [5].

The data of table 1 provide insight into the importance of major evolutionary transformations in the agricultural sector, based on the regulatory needs.

We share the opinion of Rachynska H. and Lisovska L. who, exploring the problem of innovative transformations of the enterprise, offer the following [7]:

1) change in the type of workflow technology (production type);

2) introduction of new technologies and technological processes;

3) re-engineering of the technological processes (restructuring of the production process by more rational utilization of certain links of the technological process, eliminating their unnecessary components, etc.)

4) replacement of individual items of the technological process or its elements (the process of improvement of the existing technology);

5) updating and re-designing of technical equipment (measures to optimize and improve basic processes via the application of technological equipment of the appropriate quality corresponding to the structural and technological conditions of the manufactured product, type, and volume of production). The successful solution of the problem of the energy-saving technology implementation depends on many factors.

First, it is necessary to identify and formulate the principal factors that determine the enterprise potential for technological development (fig. 1).

In their work [7], Rachynska H. and Lisovska L. have identified the principal factors that determine the enterprise potential in technological development, which are the following:

1. Technological features of the enterprise: the level of its technological process integrity, the possibility to make changes in it, introducing technological innovations.

2. The degree of the technological development intensity in the industry/ field: (frequency, swiftness of implementation of innovation), specifics of the market (its capacity and prospects for actual products); age of the company or industry, which determines their motivation for technological innovation, use of patents, ensuring the dynamics of scientific research, etc.

3. The economic factors relate to: the financial condition of the industrial enterprises, the costs of resources, the competition intensification (in particular, the establishment of dumping prices), the level of concentration of the industry, the value of illegal investments in the industry, the cost structure (material intensity) of production, the protection of the intellectual property of enterprises, customs tariff, and tax regulation.

4. Technological capabilities The enterprise must have the potential for developing innovation, staff training, and improving the currently applied technology. Adaptation of new equipment should be held in the existing technical and technological conditions of the enterprise, which also requires adequate

improvements, and creates technical and creative problems.

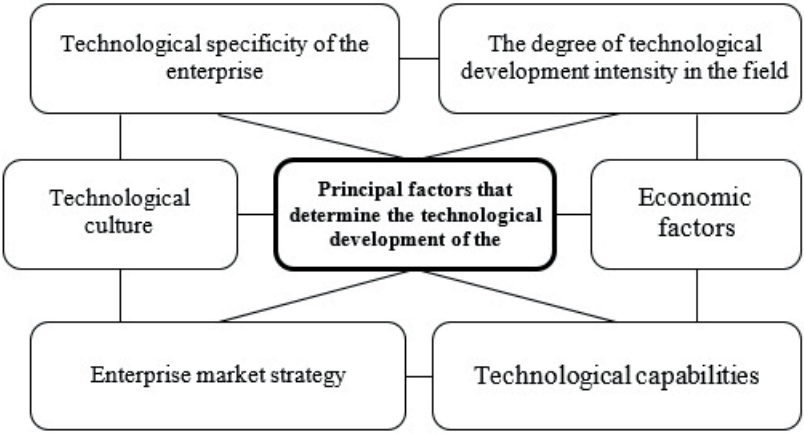

Fig. 1. Principal factors that determine the enterprise potential for technological development

Source: designed on the basis [7]

5. Market strategy of the enterprise. Protective strategy or expansion are important strategic management decisions. Under the current conditions, it is impossible to implement strategic management at the enterprise, neglecting the problem of technological development and appropriate strategies for its implementation.

6. Technology culture. Susceptibility to technological innovation and technological development of the enterprise depends primarily on the motivation and professional and psychological qualities of the top authorities, managers, and staff of the enterprise. If ambitious development goals are not set or achieved, the technological potential of the enterprise will not be actualized [7].

Thus, the implementation of effective management of technological restructuring should be based on the introduction of energy-saving technologies and taking into account the factors that determine the potential of agrarian enterprise in technological development.

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PART 4. INNOVATION ASPECTS OF FORMING SOCIAL, EDUCATIONAL AND INFORMATION SECURITY

PERSONNEL AND INTELLECTUAL SECURITY AT THE MODERN ENTERPRISE AS A COMPONENT OF ITS' ECONOMIC SECURITY

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Security for the enterprise is the key to its productive activity and prosperity. This state contributes to the fact that all employees direct their efforts to achieve new results. However, any business can be exposed to various dangers, such as: leakage of confidential information; financial loss or bankruptcy; risk of losing valuable employees; risk of misappropriation of cash or valuable objects; danger to the health and life of personnel.

So we are seeing there's a need for ensuring personnel security at the enterprise as a part of the whole economic security, main aim of which is provision of sustainable and efficient functioning of the enterprise at the present time and ensuring a high potential for development and growth of the enterprise in the future.

Personnel security is one of the components of economic security (along with others, such as financial, information, technical and technological, legal, environmental (fig. 1). It is sometimes called the «personnel and intellectual» component of economic security.

Personnel security is the process of ensuring the overall economic security of the organization by preventing the risks of threats that are associated with poor work or low intellectual potential of employees, and labor relations in general.

Threats related to personnel management, could be dived on two groups: internal and external. External threats are actions, phenomena or processes that do not depend on the will and consciousness of the employees of the enterprise and entail damage. The main external threats are the following: competitors have better work conditions or/and motivation system; deliberate brain drain of personnel; external pressure on employees; inflation and so on.

Internal threats are actions (intentional or reckless) of employees of the enterprise that also entail damage. So the main internal threats are: inadequacy of staff qualifications; poor training of staff; weak personnel management system;

poor provision of on-the-job training; inefficient motivation system; mistakes in resource planning; withdrawal of qualified personnel; lack of or weak corporate policy and so on.

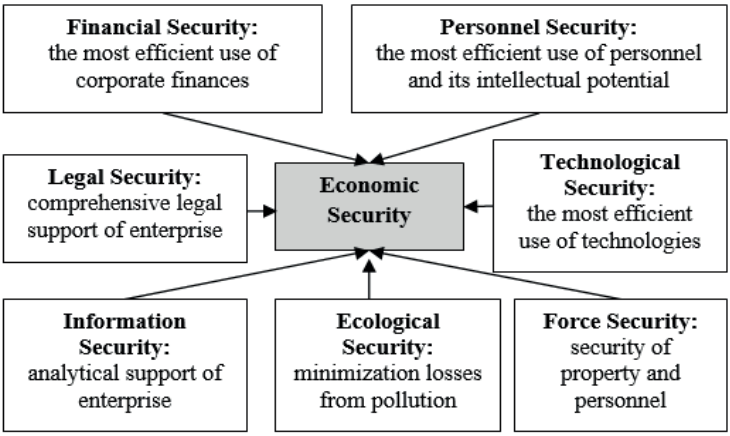

Fig. 1. Functional components of the enterprise's economic security

Undoubtedly, all these negative environmental impacts affect the processes within the enterprise, in general, its safety in terms of personnel.

In our view, personnel security dominates in relation to other elements of the enterprise's security system, as it is connected with personnel, which is primary component in any enterprise.

The key structural unit, which is functionally responsible for the personnel security at the enterprise, is hr-department. The complex of its main functional responsibilities, such as qualified recruitment, rational use of human resources, and development of the efficient techniques to encourage and stimulate personnel, – is the main tool for ensuring vocational protection. Personnel policy is a core for ensuring personnel security. As we know, the activity of the hr-department could be broken down into the several stages and components, the main of which are: personnel search – recruitment – personnel adaptation – professional development – attestation – remuneration – motivation and stimulation – termination, but this list of elements is not final, we have to remember about strategic planning (personnel policy and strategy) and external component of the personnel management. At all these stages the problem of the security exists: any act of hr-manager at any stage is a trigger of strengthening / weakening of the enterprise's personnel security. World statistics provides ample evidence of that: about 80 % of damage to physical property of companies is caused by its personnel. It's just 20 % of hacking attempt to the net for obtaining unauthorized access to the computer-based information is external one. Other 80 % of accidents are provoked due to the enterprises' personnel. In

average, these attempts cause 6-9 % of losses. We have provided just the statistics on intentional damage, but what's about the damage to the enterprise related to illiterate use of resources, incompetence, omission, lack of loyalty of enterprise's personnel? This could cost billions of damage for the enterprise. Again let us emphasize that hr-department is the core structural unit, ensuring personnel security, which allows to reduce losses of the enterprise, related to its personnel, by 60 %.

The main lines of actions of hr-management, directed of ensuring personnel security, by means of special techniques:

1. Recruitment. Here is a whole set of security measures in hiring and forecasting reliability. The main processes of hr-manager, which influence the personnel security, are personnel search, selection process, and documentation, legal enforcement of recruitment, probationary period and adaptation.

Thus, the main principles of ensuring personnel security during this hr-management stage are:

- the desire to protect the enterprise from the penetration of people related to criminal structures;
- the desire to set up barrier in front of people prone to theft. Moreover, the higher the position occupied by such a person, the more economic damage he / she can cause to the enterprise, in which he / she works;
- screening for addiction to alcohol and drugs;
- ensuring information security of the enterprise. This includes not only the protection of production and trade secrets, but also the protection of databases, marketing research results, plans related to contracts with other companies, and other information important for maintaining its competitiveness;
- employees' compliance with organizational culture.

This aspect of security has very often been underestimated in recruitment process, although it is clear that one person who adheres to destructive attitudes can do much damage to the enterprise, which is expressed in worsening moral and psychological climate, squabbles, conflicts, and worsening labor and executive discipline.

There are a number of approaches that allow solving security problems in recruitment. HR-department has to check information about applicant by communicating with people, which know him/she, and also by appealing to the previous employees. HR-department carefully examines documents, provided by the applicant.

Particularly important for enterprise's security is hr-manager. He / she is supposed to be a good psychologist and has to see through people. His / her insight and understanding of human psychology help to discover problematic applicants, i.e. people, which could create some problems, leading to disrupt security. These problems can refer economic, information or personnel spheres.

When seeking employment, candidate in turn wants to find out the aspects of his / her security: financial security (how much he will receive; in which way: cash

payouts or bank account); reliability of his / her workplace (how long the firm exists; whether business is legal and so on); organizational culture (whether there is the nice psychological climate); psychological and legal support (the desire not to have psychological stress related to the performance of his / her work); social security (what social package the firm offers its employees and so on).

During the probationary period the proclivities and abilities hazardous to the enterprise could be examined by means: (1) «extreme» testing of staff morale and performance through stress situations, which is related to the modeling of non-standard situations in a collective communication environment to test the adequacy and consistency of behaviour in conflicts, involvement in intrigue, etc., and on the other hand – with intentional creation. In such cases, the ability to think quickly and productively and make correct and operational decisions is identified; (2) method of provocations.

2. Loyalty. Here a set of measures is used to establish positive attitudes of employees towards employers. This component of security threat prevention has traditionally received little investment. However, in saving on this, the enterprise will have to spend even more resources on the activities of the next, third block.

3. Control. Here a set of measures established for personnel, including administration, regulations, restrictions, regimes, process processes, assessment, control and other operations, security procedures is used. This complex is directly targeted at elimination of potential damage and is usually carried out by the security or other departments, but to a lesser extent by hr-department.

One of the key points of cooperation between the hr-department and the security department is the management of disciplinary relations. Managing the discipline is a struggle against disorganization, passivity, dishonesty, and irresponsibility. In case of a conflict, security department's assistance is also required.

4. Information management. For the safety of personnel and the enterprise as a whole, it is necessary to protect information and prevent its leakage. Only an integrated approach to solving this problem is able to provide the necessary level of security for any enterprise - both state and commercial.

So, to begin, we must define the causes of the failure of information systems, which, as a rule, are the mistakes of users and system administrators. Inadvertent user errors when entering, modifying and processing information annually bring big losses to the organization. Theft of physical information carriers, paper documents, as well as information leakage through personnel can be attributed to the second place. In third place in terms of damage to information and its processing systems are all kinds of natural disasters, fires, heating system accidents and, which is especially important for our country, power failures. And one of the latest threats is the threat of information theft through public networks and the Internet.

If the employer has evidence of disclosure by the employee of information constituting a trade secret, then he has the right not only to apply disciplinary measures to the employee, but also to demand compensation from him for losses

caused by his actions.

Consequently, in order to create a reliable personal security system and its further development in the modern information world, the enterprise should accelerate the certification of information security management based on the international ISO 27001 standard. In recent years, management of security systems in the enterprise has been widespread, including those related to personnel, based on the methods of data mining

Thus, personnel security, as an element of the economic security of the company, is aimed at such work with personnel, at establishing such labor and ethical relations that could be defined as «break-even». All this activity is not a separate direction in the functional of the personnel manager, but only organically fits into it. And here, practically no additional resources are attracted, provided that the company has all the stages of organization and personnel management.

There is no doubt that among the tools for providing personal security at the enterprise, issues of increasing the degree of technical protection of strategically important corporate information are actualized, but the primacy, according to the author`s deep conviction, belongs to the non-technical side. Therefore, for domestic enterprises, an important step in the implementation of an integrated and holistic system of personal security is the improvement of the practice of psychological diagnosis and monitoring of employees` actions, in particular, the improvement of systems for collecting information on employee behavioural indicators in the corporate environment and beyond. The introduction of modern modeling techniques will contribute to the strengthening of systematicity in the practice of providing personal security under the influence of external and internal threats.

In the conditions of the formation of a new economy, when high-level information and communication technologies are developing rapidly, among the managerial aspects the issues of managing the psychological and motivational potential of employees are updated. Among moral values, a special place occupies trust, as a complex socially significant phenomenon of the reality of a modern, volatile and contradictory world, which has not yet received the proper scientific theoretical and applied rationale and is among the scientific interests of the author of this article. Among the issues of further scientific research by the author is the evaluation of the effectiveness of the application of various systems, methods and tools for personal security management at the enterprise

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NEW TRENDS OF THE PUBLIC MANAGEMENT - THE REMUNICIPALISATION

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The approach of organizing public services varies from country to county, and is affected by the development of economics, law, management. However, the desired system is the same, as they all serve the highest satisfaction of citizens, taxpayers. So, on the one hand, our research includes a theoretical history presentation from the 1970s to the present. During this, we present and evaluate triggering processes from the perspective of NPM, and we also cover the most significant events of the present.

In the study, we investigate the most important incidences contributing to the born of the theory, and also the national and international, "re-municipalization", contrary to NPM activities of the last few years.

In the other section of the research, we analyze the bankruptcy of a UK-based, profit-oriented, private owned, but public service provider company, from the aspect of financial and operational risks.

Literaty overview. In management of public sector, the base is Weber's organization theory because of its pioneering nature, describing the main characteristics of bureaucracy, identifying the reasons of its growth and social concomitants.

According to Public Choice: An Introduction to the New Political Economy, the root cause of the bureaucracy can be found in the nature of stimulating and controlling systems used by public administration. According to the statement of the theory, legislation gets only incomplete information from the administrative organizations, it was identified as the "process of losing control", which is caused by the fact that it is difficult to define the responsibilities of the associates. The problem is that the prices of public goods and services are not determined by the market, so their performance is not comparable to the private sector. Finally, the organizations growing bigger than optimal are the biggest problem. [1] points out that the main difference is hiding in personal aspects, so self-interest cannot be ignored when talking about decision makers and politicians.

The New Public Management (NPM) paradigm was born in the 1970s in the Anglo-Saxon countries, with the aim of increasing efficiency in the public sector by extending the role of private management, adopting its methods to enhance customer satisfaction [2]. Efficiency requirements for public sector became part of mainstream economic literature when the period of the economic growth had stalled. Main idea of New Public Management paradigm is that the base of the economic crisis in the period was the fact that the modernization of private sector was not followed by update in the processes of public sector. [3.] In their opinion tasks that can be completed by market contribution should be handed over to the more efficient private sector, and modernizing the functioning of the state is also a necessary requirement.

In our opinion, turning up of New Public Management is in harmony with the spreading of monetarist economic theories which intended to set the stage of economy for development from stagflation by reducing the role of the state and supporting deregulation and marketization. Based on its assumption, in case a given public service can be provided by the contribution of private companies, it is advisable to prefer private sector.

Essential points according to [4,5]:

- Active professional management,
- Applying standards and performance indicatory
- Moving to the direction of smaller organization units
- Competitive spirit, focus on utilizing methods of private management

• Being strict in usage of resources[6].

[1] has summarized the tools of NPM as below:

• Organizational restructuring,
• Usage of management tools and methods,
• Budgetary reforms,
• Being customer-oriented,
• Marketization and privatization.

Regarding to the business organizations owned by local governments, [7] has pointed out the fact that, as a result of NPM, utility companies form a transition in privatization and other private constellations in their organization format, however, for wealth management and real estate companies, local government ownership can be permanent.

Essential goals of NPM include:

1. Reducing the size of polity or at least maintaining it,
2. Privatization of central state property or handing it over to local governments,
3. Designing the new organization forms of public services,
4. Last but not least, as a replacement of country-specific public management techniques, organizing a new public management which is based on international cooperation and knowledge sharing, utilizes best practices [4].

Research results. Re-municipalization can be translated using Hungarian terminus "new socialization" or "re-localization", which practically means that mostly public services, which had been previously outsourced or marketed to professional investors, are being taken over and provided again by local authorities' own, specific organizational units. So, the local government cancels the already existing public service contract, and possibly repurchases the part ownership. In Hungary, National Property Law requires that some specific public services including water utility and waste management services shall be provided by companies owned by the local governments.

One of the most significant researchers of re-municipalization is Public Services International Research Unit (PSIRU). During the survey of the organization, they detected nearly 180 occurrences from several spots of the world, especially in case of water utility services, but it is also typical in power supply and waste management.

Surprisingly, in 136 cases, it occurred in modern, higher income countries, which is perfectly indicated by the fact that France on its own had 49 occurrences besides Paris, and also, to only mention the biggest ones, the phenomenon occurred in the cities of Berlin, Atlanta, and Indianapolis. Besides Indianapolis and Atlanta, there were 59 other occurrences in the USA, and the phenomenon is also typical in Spain. (Figure 1).

If we divide the Earth into Northern and Southern Hemispheres, then, from the bigger cities of the Southern Hemisphere, it also occurred in Buenos Aires (Argentina), La Paz (Bolivia), Johannesburg (South African Republic), Dar es Salaam (Tanzania), and in Kuala Lumpur (Malaysia). By the way, in the developing

countries the phenomenon follows a downward trend which refers to the lack of capital and the high resource requirements of building up public services.

Fig. 1. Worldwide occurrences of implemented re-municipalizations between 2000 and 2014
Source: [8]

Explanation and understanding of the trend raise the question why these phenomena are occurring. In developing countries, occurrence of re-municipalization can be explained by the weak public service activity, especially in case of Johannesburg. In developed countries, the root causes are manifold, for example, "underinvestment", which occurred for water utility sector in Tallinn and Berlin. In these cases, the professional investor did not fulfill the contracted professional conditions by not significantly renovating the existing assets. When it comes to the USA, analyses pointed out the lack of monitoring activities and financial transparency, firing manpower, poor quality services as the root cause of the abolition especially in case of Atlanta and Indianapolis. Lack of transparency was also alleged by the complete report against Paris and Grenoble. Discarding of the service provider was caused by the high prices and increasing costs in Almaty, Kazakhstan.

There has already been an example for a similar situation in Hungary, with high media coverage, related to Pécs. In case of Pécs, the professional investor has fulfilled the obligations under the contract for the technical content, but started to found new companies, which made local governments worry, therefore the minority owner local government has cancelled the contract with the investor and repurchased its share.

Between the enterprises, cancelling the contract is the most typical in case of the French Veolia, Suez and SAUR, the German RWE and Remondis, the United Water in the USA, and the Aqualia in Spain.

After discarding the professional investor, it is typical to give the right of the operation to a local, or municipal company, in some cases civil sphere was also

involved in the decision making, for example, in case of Grenoble.

The process of market liberalization seems to be reversing in the developed countries, in parallel, in the developing countries, the contribution of public service providers from the market is more and more growing. However, it can be filtered that the trend is more typical in case of developed countries, which is supported by the fact that having the average of GDP/capita rate in every countries affected by re-municipalization, and the number of occurrences in a yearly time series, a positive correlation can be detected between the two values, where the value of the coefficient is 0.56 at a significance level of 1%, while a relation could not be detected by the analysis in case of less developed countries.

Case study: Bankruptcy of a public service provider – market risk vs. state risk? In a case study, we attempted to present a case from England. The analyzed company is the Carillion group, which operates as a market enterprise and is not owned by the government or any local government, however, it has a significant role in providing public services in the Great Britain. It covers cafes, cleaning service, and real estate management. The latter is a classical municipal task as a part of the property management function, in case of England, they managed the housing stock of local governments. Because of the specialties of English pension system, the company had its own pension fund for its more than 20 000 employees, with mandatory payment. As a result, the group has grown into a serious public service provider and has become responsible for serious investments. The company also had serious market power by having up to 35 000 partners on the supplier side.

Providing public services was seriously undermined by the business insolvency of the company, BIG4 auditing firms also took part in the assessment and selling of the assets of the enterprise. After termination of services provided by Carillion Group, English local governments and state organizations had to sign nearly 300 new public service contracts.

The problem is complex as the accounting, auditing provider of the company did not notify the company about the violation of accounting principle of going concern which indicates the accounting irregularities and the dysfunctionality of government controlling.

In the study, we also tested the predicted bankruptcy risk using a commonly used bankruptcy model accepted in England. Its formula and cur-off points are summarized below.

Taffler's Model [9]:

X1 = EBIT/(Current liabilities)

X2 = (Current assets)/Liabilites

X3 = (Current liabilities)/(Total assets)

X4 = Sales/(Total assets)

Z = 0,53X1 + 0,13X2 + 0,18X3 + 0,16X4

Under model value 0.2, the chance of bankruptcy is high, while in case of a value above 0.3, the chance is low.

Table 1

The results of Taffler's Model

Company	2016	2015	2014	2013	2012	Mean	Standard deviation	Median	Nace
CARILLION PLC	0,42	0,44	0,42	0,41	0,43	0,42	0,01	0,42	4120
CARILLION CONSTRUCTION LIMITED	0,43	0,40	0,39	0,39	0,43	0,41	0,02	0,40	4120
CARILLIONAMEY LIMITED	0,73	0,71	0,96	1,19	1,16	0,95	0,23	0,96	9609
CARILLION UTILITY SERVICES LIMITED	0,59	0,54	0,52	0,56	0,52	0,55	0,03	0,54	4120
CARILLION SERVICES LIMITED	0,44	0,56	0,51	0,49	0,59	0,52	0,06	0,51	8299
CARILLIONAMEY (HOUSING PRIME) LIMITED	0,50	0,61	0,68	0,79	0,84	0,68	0,14	0,68	9609
CARILLION INTEGRATED SERVICES LIMITED	0,60	0,73	0,72	0,71	0,94	0,74	0,12	0,72	9609
CARILLION (ASPIRE SERVICES) LIMITED	0,86	1,19	1,70	1,54	1,84	1,43	0,40	1,54	8299
CARILLION ENERGY SERVICES LIMITED	1,22	0,48	0,44	0,29	0,32	0,55	0,38	0,44	7022
CARILLION FLEET MANAGEMENT LIMITED	1,80	1,20	0,99	1,03	0,51	1,11	0,46	1,03	9609
CARILLION ASSET MANAGEMENT LIMITED	0,80	0,88	0,68	0,45	0,36	0,63	0,22	0,68	4399
CARILLION (ASPIRE CONSTRUCTION) LIMITED	0,49	0,55	0,93	0,73	0,85	0,71	0,19	0,73	8299
CARILLION SERVICES 2006 LIMITED	0,60	0,42	0,53	0,52	0,65	0,54	0,09	0,53	4120

CARILLION LGS LIMITED	0,36	0,36	0,38	0,54	0,53	0,43	0,09	0,38	4211
CARILLION (MAPLE OAK) LIMITED	0,36	0,24	0,39	0,59	0,85	0,49	0,24	0,39	4110
CARILLION AM GOVERNMENT LIMITED	0,41	0,37	0,54	0,64	0,53	0,50	0,11	0,53	4120

Source: Own calculation based on Amadeus database

As it is clearly presented by Table 1, in the analyzed year, the bankruptcy model with high reliability could also not able to predict the violation of going concern principle. This can be filtered out of data from 2016 as the bankruptcy was announced on 15th January 2018, so the latest annual report available for the analyzer is the one from 2016 which is the last closed year before the bankruptcy.

The auditor company found no good reason to determine the violation of the going concern principle in annual report of 2016. Based on this, the conclusion is that:

- Accounting reports did not reflect the real performance,
- The company did not keep the conditions of responsible corporate governance,
- There were unreasonable bonuses at the company.

Fig. 2. The company's share price
Source: alfatrader

Figure 2 indicates the effect on exchange rate. After announcing the bankruptcy, the exchange rate has broken, the shares lost their value. The company lost most of its contracts, Bankruptcy Authority accompanied with auditing companies could ensure that 60% of the employees until could remain until August 2018, however, claims for damages due to the lack of provided services have just started. So, leaders of the company can be held responsible for the situation as they did not act properly and did not act according to their responsibilities, the state actors who did not verify the performance of the corporate in substantively, and also the auditor companies

for not revealing the presumed accounting irregularities. It can be concluded that going concern principle shall also be taken in account, especially in case of public service provider companies [10,11,12]. One solution of its support is to utilize controlling systems and analyzer tools like [13,14].

The topic affects the lesson of the subprime crisis of 2007 if the company is "Too big to fail?", and if it really fails, "Who pays the piper?". However, the main lesson of this question is how an enterprise can become a dinosaur when it comes to public services. It can be filtered from this huge size organizations should not be organically or artificially created without reasonable state controlling as it gives chance for risks to build up. In our country, it was not created a market-based way, but by laws, especially in case of waste management, but also in case of traffic, some similar centralization process can be recognized. So, a well-functioning state shall be properly prepared for the risks, and shall also utilize the results and experiences of science and build them into the regulation environment.

By this, we defined the operative tasks of modern state management and its role in providing high quality public services.

Functions:

- Usage of modern controlling environment and toolkit,
- Continuously supervising the organizational framework task delivery, pursuit of ensuring economy of scale
- Certification of partners, working out own tools for them
- Creation of an effective property portfolio

To achieve this, we recommend the processes of strategic creation, and usage of strategic (e.g. Balanced Scorecard, strategic maps) and operative controlling tools which can support achieving transparency and legitimation for the citizens.

In Hungary, fiscal decentralization has been restructured since 2011. As a result, state and local government tasks have been restructured. Municipalities took over a major task through public utility companies, while human public services became a state task. This is because the fiscal measures taken during the financial crisis eroded the viability of Hungarian local governments [15,16,17].

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INFORMATION SECURITY AND ECONOMIC CRIME: PROBLEMS AND SOLUTIONS

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Any activity should be based on certain principles, reconnaissance activity is not an exception.

Principles are guiding ideas, fundamental aspects, developed by operative and reconnaissance practice expressed in the norms of legislative acts; political, economic and social patterns of Ukrainian society development; ethical and legal understandings of the citizens of Ukraine about the meaning, purpose, tasks and procedures for carrying out operative and reconnaissance activities.

The first and most important principle of the organization of any reconnaissance, in particular economic, is the impartiality in the selection, systematization, processing and transmission of the information received to the addressee.

The principle of systematic information obtained by economic reconnaissance ensures the reliability of the data, and therefore, the effectiveness of intelligence. It is due to the fact that most objects, companies, corporations, enterprises, organizations, etc., are complex systems that have such components as production, marketing and financial subsystems. Since they are inseparable and interdependent

units, their indices must be mutually confirmed.

In business organizations, the greatest interest and, accordingly, the number of threats arise in the field of economics. Therefore, operative and reconnaissance activities to ensure economic security are the main ones.

Other important principles of planning for reconnaissance in the economy are: (1) Determining the purpose of conducting reconnaissance activities; (2) Determination of the subject's need of the economic activity in information to achieve these goals; (3) Identification of sources to obtain the necessary information.

For productive economic activity, the management of the enterprise must adopt multi-level solutions, the information support of which is provided by the system of economic reconnaissance. Management of any organization has at least two levels: management of the current activities of the enterprise and management of its strategic development. The results of the excepted decisions on these issues are demonstrated variously: current - in the near future, strategic - in the future.

It should be noted that the nature of information for each level of decisions is different. In this regard, in the work of economic reconnaissance department of the enterprise, should be distinguished two components:

Strategic (macroeconomic) - collection and analysis of strategic information on global processes in economy, politics, technology, etc., which can (positively or negatively) affect the development of an enterprise.

The purpose of the strategic level of decision making (opening of new production, introduction of new goods or services on the market, etc.) is to determine the direction of further development of the enterprise. These decisions determine the need to orient themselves in the market and analyze the prospects for its development, that is, to see the market places that have not yet been filled by competitors.

Unfortunately, in our country, business executives spend less time on strategic management. However, a serious business is designed for many years, and the fact that the enterprise will fit in its development in 5-10 years, you need not only to plan, but also scrupulously to calculate in advance: which political associations to support, and which is not worth it; in which «noisy» cases to participate, and from which it is desirable to stay away, despite their external attractiveness. Information for reflection on these important issues facing the management of the company, and should provide a strategic component of economic reconnaissance.

Operational and tactical (microeconomic) component of economic reconnaissance - collection and analysis of operational and tactical information for the approval of the management of sound decisions on current problems of the enterprise.

The purpose of the operational and tactical level of decision making (construction or purchase of a building for a new workshop, training of personnel for the production of new products or the provision of new services), in accordance with the direction of further development, - to choose the optimal way to achieve it

and minimize the cost of development in this way [1; 2].

Purposes of intelligence activities are clearly structured. Each goal is predetermined with the purpose of a higher order, while remaining autonomous for the needs and sources of information. So, after the strategic goal (definition of the direction) is an operational and tactical goal (the choice of the best way of development and it advancement ahead).

Creating an «e-mail system» linking various divisions of an enterprise will solve the problem of timely dissemination of open (non-public) information documents.

The purposes of creating a system of economic reconnaissance of the enterprise. The main purpose of the economic reconnaissance system is to: ensure the company management with reliable, objective and complete information about the intentions of partners, affiliates, clients and counterparties, about the strengths and weaknesses of competitors; collect data that can influence the position of opponents in business negotiations; inform about possible crisis situations; administrate and control of implementation of concluded agreements and agreements reached earlier.

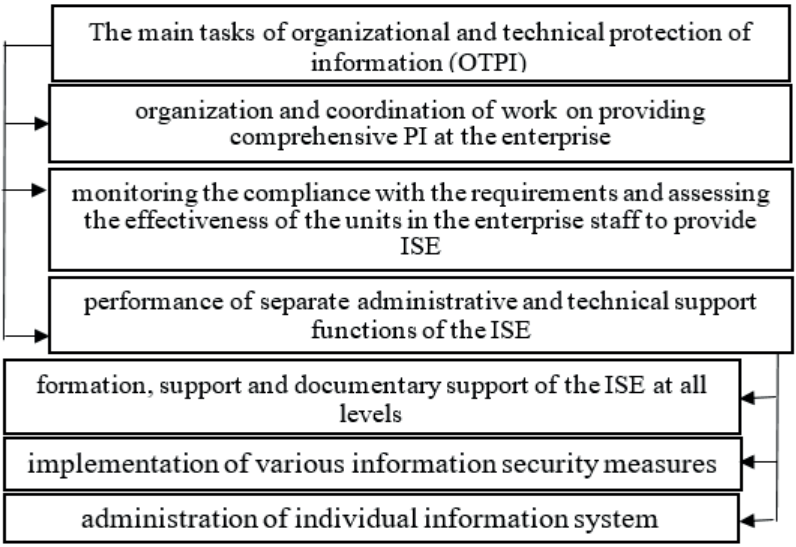

Fig. 1. The main tasks of organizational and technical protection of information

In general, it is customary for banks, joint – stock companies, large firms to organize security services (SS), which include competitive intelligence (CI), counterintelligence, technical protection (TP), throughput and security units. In particular, the units of organizational and technical protection of information of the enterprise is an independent structural unit of the enterprise engaged in protection of information of resources (PI). The main tasks of organizational and technical

protection of information (OTPI) and information security of the enterprise (ISE) are (fig.1):

The main features of the operation of the enterprise, the composition of the tasks of the units and its internal organizational structure in each case is determined by the following features (fig. 2):

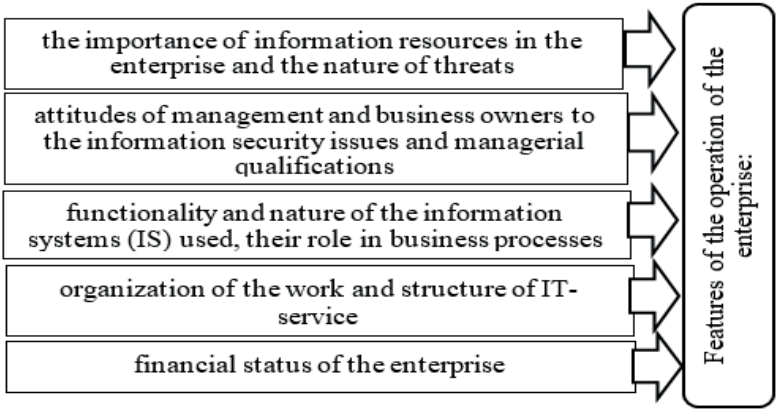

Fig. 2. Features of the operation of the enterprise

There are a number of functions related to providing information security, namely: (1) functions related to the formation, support and documentary provision of the company's information security policy; (2) Functions related to the implementation of the information protection facilities; (3) Functions related to the administration of information systems and information security systems; (4) Functions related to the control of compliance with the requirements of the information security policy and the conduct of audits [1; 2].

Subdivision of organizational and technical support (SOTS) is as a structural unit in the Enterprise Security Service, it includes the Information Security Division (ISD).

The employees of SOTS are in administrative and functional subordination to the head of the enterprise, who is responsible for ensuring information security at the enterprise. The conclusion of the head of information security from the structure of IT services at Enterprises is one of the important modern trends in business management, information technology and information security, because, according to some experts, these units have some Partially mutually controversial interests and therefore some assignments cannot be effectively resolved within a single structural unit [2].

As part of IDS of the enterprise, the company usually allocate independent groups specializing in the performance of certain functions: (1) Administration Department of IS; (2) Department of normative documents; (3) Information Security Audit Department; (4) The Implementation Department of the IS and the ISS.

The Department of normative documents solves tasks related to the formation,

support and documentation of the ISE policy, and should mainly include management and business analysis professionals who have undergone additional training in the field of Information security management. Also the department consists of lawyers.

The Department of information systems administration, as well as the IS implementation department and the ISS include IT and means specialists with significant experience in implementation and operation of corporate IS.

In general, the implementation of the existing information security policy requires the company to attach considerable effort.

One of the main and most difficult directions of work is to work with the personnel, whose goals are: 1) selection and checking of the personnel, for work; 2) training of employees; 3) Achieving mutual understanding of executives and employees in providing IS; 4) Psychological training of personnel to avoid the influence of social engineering methods.

Thorough selection is conducted in the ESS and in the information security subsection, one of the important fundamentals of HR work is its training in ways of providing IS and safe work with the information system. Training and subsequent control of knowledge gained can be both primary and repeated.

In general, an employee of an enterprise cannot be admitted to the performance of his / her duties and work with the IS without passing training on IS and fulfillment of the following requirements: 1) Detailed acquaintance of the current on the enterprise requirements and General rules; 2) knowledge of the methods and techniques of the IS, required for the performance of functional duties; 3) acquaintance with the measures of disciplinary, administrative, criminal liability which may be applied to it in case of violation of the requirements, and also in case of damage on its fault.

At the end of the employee must give all necessary obligations to non-disclosure confidential information, to certify that he is fully acquainted with the basic provisions of the security policy.

In the process of operation, the company can also conduct periodic monitoring of knowledge and skills related to providing information security for the purpose, to certify the competence of employees in this field. Also one of the teaching tools can be a periodic acquaintance of the staff with real examples of the recently occurring incidents related to information security. In addition, the additional training of personnel of the enterprise is carried out in the following cases: introduction of new automated information systems; Business processes changes;

Changes in security policy requirements (example: due to changes in legislation requirements) [2].

Similar organizational measures to ensure the protection of information may be necessary and when changing business processes of the enterprise, when its structure changes, distribution of functions between the units and duties of employees, and accordingly, are made Changes in organizational charts, staff murals and job descriptions. The changes in the security policy requirements may be related to the

emergence of new threats, changing legislative requirements, expanding markets, changing the attitude of management and owners of the enterprise to issues of information security and other factors. All these clarifications and changes should also be timely and fully to the staff.

The modern information system is a complex system, consisting of a large number of components of autonomy varying degrees connected among themselves and exchange data. Almost every component can be exposed to external influences or go wrong.

The general threat classification of an automated information system of an object is as follows: 1) the threat of data confidentiality and programs; 2) the threat of the integrity of data, programs, hardware; 3) the threat of data availability; 4) threat of refusal to execute transactions [2; 3].

An assessment of the vulnerability of an automated information system and the construction of an influence model involves the study of all options for implementation the above threats and identification the consequences to which they lead. Information security threats can be conditioned by human factors, human-machine and machine factors.

Human factors are divided into: passive threats (threats caused by activities that are accidental, unintentional) and active threats (threats caused by intentional, deliberate actions of people) [1; 4].

There are threats of damaging data processing systems caused by physical influences of natural phenomena that are not human-dependent.

However, the wider and more dangerous range of artificial threats caused by human activity, based on motives, can be distinguished: 1) unintended threats caused by mistakes in design, preparation, processing and transmission of information; errors in the actions of the staff, software, accidental crashes in the work of computer facilities and communication lines, power supply, user errors, the impact on the equipment of physical zeros, etc.; 2) deliberate threats caused by unauthorized actions of service personnel and unauthorized access (UAA) to the information by the third party.

Threats that are not related to human activity [3]. Therefore, in the design and operation of data processing systems, there are mandatory fire prevention issues. Particular attention should be paid to protection against the fire of computer data carriers, file servers, individual computers, communication centers, archives, and other equipment and premises or special containers, where huge massifs of very important information are kept. For these purposes, special fireproof safes, containers, etc. can be used. Another threat to data processing systems in computer systems is lightning strikes. This problem does not arise often, but the damage can be caused very large.

Organizational and legal ways: (1) non-compliance with the requirements of the legislation and delays in the adoption of the necessary legal and regulatory provisions in the information field; (2) unlawful restriction of access to documents [2; 3].

Illegal collection of information can take place via: 1) stealing of relevant information or objects that it contains from the premises where they are stored; 2) secret criminal penetration of the premises and copying information on paper or electronically; 3) bribing employee of a company that had or has legal access to information; 4) bribery of intermediaries in the negotiations which have certain information; 5) illegally obtaining information from lawn for cement or regulatory authorities, which collected such information while performing their direct duties; 6) threats of physical violence against a person or his close relatives to whom information has been authorized as work responsibilities; 7) blackmail an employee who is on the «hook» because of certain circumstances; 8) installing a spy as a member of staff of an enterprise; 9) recruiting an active employee or using an incentive to disclose information by a laid off person on the grounds of ethnic, racial, religious affinity, to avenge manager for illegal dismissal, transfer to another job, dismissal; 10) using various technical devices that record and transmit information; 11) penetrating the computer networks.

Is very important Enterprise competitive intelligence activities, external and internal monitoring of team morale, identifying risk factors, timely receipt and processing of information, cooperation with law enforcement and security agencies are very important for counterintelligence division of the enterprise. Only a systematic and comprehensive approach to enterprise security will lead to developing a common approach and mechanism of protecting business.

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MANAGEMENT BY TALENTS IN CONTEXT OF CONCEPTION OF ABSORPTIVE ABILITY OF ORGANIZATION AS DIRECTION OF PROVIDING OF HER SKILLED SAFETY

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Today in the conditions of globalization of economy a personnel, his knowledge, level of qualification and efficiency, becomes one of important directions of receipt of competitive edge and providing of skilled safety of any organization. The height of competition at the market of labor substantially complicates the tasks of bringing in, motivations and withholding of employees, therefore companies perfect the approaches constantly.

Along with understanding of necessity of найма, development and withholding of talented people, organizations know that they must manage talent as major resource for the achievement of the best results and her skilled providing.

Management by talents is critically an important process, which allows to organizations to pick up exactly those people that would be able to bring a most contribution to work of company taking into account current and future priorities of business. A process embraces all key aspects of life cycle of employee is a selection, development, educating, planning of career and management by the productivity.

Growing fluidity of global labor-markets, displacement of demography of labor force and change of character of work, hamper bringing in development and withholding critically of important talent, creating a value for organization [6]. Talent stimulates the productivity, and in turn commands with the best people come forward at higher level. Leading organizations know that exceptional business activity is conditioned by excellent talent. People are a resource, skilled providing of organization.

Talent is strategy, skilled safety of organization. Another, no less important problem that stands before many companies is a requirement in permanent development of ability effectively to create and move knowledge, which is an important factor in the achievement of competitive edge at the market [11]. Actuality of study of conception of absorptive ability of organization, or, in other words, her capabilities to acquire knowledge, master them, transform, and, finally, save and use for the increase of economic and financial indicators, flows out from here [2, 11].

But on the other hand, now not so a question is widely studied that, how exactly and by means of what practices a company can influence on the absorptive ability, that underlines actuality hired once again.

The aim of this research is determination of intercommunication and influence of practices of management by talented employees on ability of companies to find, master, transform and use new knowledge (absorptive ability).

A management is extremely important talents for the acceptance of different decisions, first of all, at strategic level; it allows engaging an employee in a management by a mission or tasks of organization [1, 2]. However, it is needed to mark that at the large variety of determinations of «talent» in domestic and foreign literature uniformity is absent in the question of research object, that does not allow to form single determination of talent.

In addition, in a number of sources other terms different from talent are used, under that the similar categories of employees are understood. For example, many scientific publications [2, 3, 4, 6, 11], sanctified to the management by talents, take talent for something in itself understood and does not give some obvious determination. On the whole, it is possible to distinguish a 2 going near determination of talent: the first characterizes talent as man; at the second approach authors are inclined to take this concept rather to descriptions of personality.

Analyzing the row of determinations of different authors, it is possible to notice that talent as a rule is used together with such concepts, as skills [6, 7, 10], competence/of competence [9, 11], potential and effectiveness [4, 5]. Taking into account different approaches and concepts, allowing to expose a term «talent», it is possible to form one most capacious, that in future and will be used by us in the process of current research: talented employees are employees, possessing prominent knowledge, abilities and skills, able to apply them in accordance with the needs of company and introduce a most contribution to creation of value of firm, dismantle the extremely high results of labor, high level of motivation, and also possess high potential to professional development and height.

Presently all more companies realize the necessity of reorientation from a management by a personnel on conception of management by talented employees, because exactly talent is a main factor, which defines success of companies, and ability of organization to attract, develop and retain talents will be a main competitive edge during many years. From the moment of appearance of management conception by talented employees in works of researchers, a considerable change suffered understanding of source of talents in organization.

Most early works turn greater attention on internal talent of employee [10]. In later works, authors underline importance of internal search of talents also [10]. Moreover, researchers, pay attention to underestimated of conception management talented employees in modern organizations.

Many companies add enormous efforts for bringing in of new employees, but at the same time, spend time not enough and facilities on withholding and development

of talents that already work in organization, putting the same under a threat her skilled providing and violating the system of her skilled safety, violating principle, that control system talents must be by part of control system by a personnel, that provides business strategy of any company on all her levels and making system of her skilled safety.

In addition, it should be noted that for the last thirty years began actively to collect popularity in literature [10] conception of absorptive ability of organization (Absorptive Capacity, ACAP), and particular interest of researchers in this area attracts influence of ACAP on the organizational educating, exchange by knowledge, innovativeness and job of firm performances.

First this term was identified by Cohen and Levinthal, which examine absorptive potential as important component of activity of firm and long-term survival. Authors [8] determine absorptive ability as «ability to recognize the value of new information, assimilate, analyze her and apply companies» to the commercial aims.

The determination given by Cohen and Levinthal implies that the obvious and necessary condition of success with absorption of knowledge is mechanisms and structures of firms, sent to that, to spread knowledge through her internal and external borders. It is possible to suppose that absorptive ability «depends on ability of organization to interchange knowledge and to communicate inwardly».

Thus, absorptive ability is a critical factor that embraces all organizations as an absorptive process is opened out. Conception of ACAP, as it was already marked before, possible to attribute to organizational ability to take in and assimilate the knowledge got from outside.

Ability of organization to acquire new knowledge was described both conceptually and empiric by means of strategic management and from the economic point of view, and the factors of absorptive ability were related to the different organizational results (for example, productivity, innovations, management by changes etc.).

Also conception of absorptive ability was studied on the different levels of management, such as state, inter-organizational and organizational. And although basic part of existent research work of conception and ACAP investigated at organizational level, it is possible to mark that a corresponding theory specifies on that organizational ACAP is base on individual ability of employees to take in knowledge, although existent researches after the practical worker of fastening ACAP and processes of УЧР scanty enough.

Only in not many researches the special attention was spared to influence of skills of separate persons on ACAP with support on corresponding preceding knowledge and experience, which is owned by well-informed employees or so-called «gate-keepers». In addition, the level of education and educating of employees, and also conception of administrative cognition, were considered as prevailing factors for developing flair of employees to identify, assimilate and use new knowledge.

If to examine the concept of absorptive ability from the point of view of theory, then

he can be attributed to the area that is very near to the area of management knowledge, by being presently part of general management by human capitals and, in given, case it is needed to mention the classic model of I. Nonaka and H. Takeuchi [8] SECI examining a forestage spiral process of transformation of knowledge from non-obvious (tacit) in obvious (explicit) and back.

It is necessary to mark that hired does not contain direct mention of absorptive ability of company, but the model offered in her is near with the model of ACAP S. Zahra and Jn. George [18]. Already it grounds to us to suppose that conception of absorptive ability is closely related to the theory of management by human capitals in organization

Non-obvious knowledge	**Non-obvious knowledge TO**	**Obvious knowledge**
From	Socialization	Externalization
Obvious knowledge	Internalization	Combination

Fig. 1. Model SECI I. Nonaka and H. Takeuchi [8]

This thesis is confirmed by researches proving, that a level of absorptive ability of organization is in strong dependence on the presence of employees, possessing the set of competences relevant to the business necessities, in this connection it is accepted to consider that human capitals are a main type of resources, forming ACAP.

In addition, because the question is not about the general competences of firm, and about the competences of concrete employees, it will be just to suppose the presence of dependence between practices of management by the talented employees, directly sent to optimization of number of workers, not only possessing necessary knowledge and skills but also able to introduce a most value in organization, and absorptive ability of company. All practices of development of talented employees are base on motion of knowledge into a firm.

If to examine absorptive ability of organization in accordance with the model of S. Zahra and G. George, acquisition of knowledge is related to the search and authentication by new potentially to useful information out of firm. Comparing between conception of absorptive ability and model of SECI I. Nonaka and H. Takeuchi, it is possible to mark that the stage of acquisition of knowledge corresponds to the stage of socialization and partly stage of externalization, because in an order to be purchased, external knowledge must be not simply identified, but also adopted by the employees of company.

Speaking about the programs of development of talented employees, it is possible to assert that to this stage it is possible to take both the programs of the

formal educating, including the external training, and development in investigation of maintenance of contacts with different parties concerned, including suppliers, competitors, partners, clients and external experts.

While in the process of the formal training handed on employees obvious torches (explicit knowledge), ranging and maintenance of business mutual relations allows to get non-obvious knowledge (tacit knowledge) often being more valuable in connection with their obvious practical applicability and high complication of printing-down. On the stage of mastering information must be widespread into organization and also analyzed and treat her employees.

It can be carried out by means of the internal training, thus both formal and informal, and also through communications between the workers of company. This element of absorptive ability in a most degree corresponds to the stage of externalization and partly stage of combination on the model of I. Nonaka and H. Takeuchi. Third stage, transformation, introduction of new knowledge implies in already existent routines and practices of company.

In success of passing of this stage the most essential role is played by development because of receipt of working experience, because exactly due to him the knowledge purchased and mastered by organization become part of individual knowledge. Consequently, this stage unites in itself the stages of combination and internalization of model of SECI. Finally, on the last of peat-time of model of absorptive ability – stage of the use of knowledge – new knowledge are used so that to bring in the return of organization.

In other words, employees study to use knowledge in practice that corresponds to the stage of internalization. In respect of educating, then here most often there is the use of the informal programs of development, implying, mainly, an elemental exchange by experience between employees straight on workplaces.

Nevertheless, it is needed to mark that on given moment there are not academic works that straight study influence of practices of management talented employees on absorptive ability of organization or intercommunication between them. However, it is possible to do supposition about the presence of influence of practices of management by talented employees on absorptive ability of organization.

Working out the totals, it is possible to say, that on the whole management actively develops talented employees presently and first of all contacts with general practices of management human capitals that is sent to the increase of job of firm, her skilled providing and skilled safety performances.

In addition, conception of absorptive ability of organization is examined in this research. The special importance for further research is played by the analysis of pre-conditions of intercommunication of absorptive ability of organization with the practical workers of management talented employees presented further, existing in academic literature.

It was educed as a result of such analysis, that on the real moment there is not direct proof of such influence in literature, however there is a row of theories on the

basis of that it maybe to suppose about his presence, what will be the article of our further researches.

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INFORMATION SECURITY MANAGEMENT OF INDUSTRIAL ENTERPRISES AND ITS FEATURES WHEN USING THE INDUSTRIAL INTERNET OF THINGS

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Information is the most valuable resource for a business. The availability and rapid input of reliable and complete information about the state and change in the political, social, economic situation as well as internal business processes enable businesses to quickly respond to any changes in the organizational environment of enterprises, and effectively plan and implement it.

Efficiency of activity and development of enterprises require information security. This guarantees the security of business processes and the stability of their activities.

Information security is the process of organizing a system of input and output information flows of an enterprise, which rapidly provides it with reliable and complete information, guarantees protection against violation of its integrity and unauthorized dissemination.

Information security management is one of the most important processes for managing of an industrial enterprise. That requires a careful choice of strategy and tactical measures for its implementation.

The level of information security depends on how efficiently enterprises can prevent threats and quickly eliminate damage of negative impacts.

Objective negative impacts arise without participation and beyond the will of industrial enterprises. These impacts include the unlawful activities of competitors and individuals involved in industrial espionage or fraud, business partners, previously dismissed employees, as well as offenses of the representatives of regulatory authorities.

Subjective negative impacts arise as a result of inefficient activities of the enterprises or their individual employees. These impacts include the employees' actions or omissions, which are contrary to the interests of industrial enterprises. This may result in the losses, leakage and loss of information resources (including those that are commercial secret or confidential information), the harmed business reputation, the problems in relations with real and potential partners (loss of contracts); conflicts with competitors, controlling and law enforcement bodies.

Information security is achieved by protecting information from unauthorized access, information disclosure, its modification or destruction.

Allianz Global Corporate & Specialty (AGCS) conducted the next annual study of global business risks. It represents the views of 2,415 experts from 86 countries. Cyber risks (e.g. cyber crime, IT failure / outage, data breaches, fines and penalties) were recognized as the key business risks for 2019 and subsequent years (37% of respondents' answers) (Table 1).

Table 1

The 10 top most important business risks in 2019 [1]

Rank	Risks	Percent	2018 rank
1	Business interruption (incl. supply chain disruption)	37%	1 (42%)
2	Cyber incidents (e.g. cyber crime, IT failure/outage, data breaches, fines and penalties)	37%	2 (40%)
3	Natural catastrophes (e.g. storm, flood, earthquake))	28%	3 (30%)
4	Changes in legislation and regulation (e.g. trade wars and tariffs, economic sanctions, protectionism, Brexit, Euro-zone disintegration)	27%	5 (21%)
5	Market developments (e.g. volatility, intensified competition/new entrants, M&A, market stagnation, market fluctuations)	23%	4 (22%)
6	Fire, explosion	19%	6 (20%)
7	New technologies (e.g. impact of increasing interconnectivity, nanotechnology, artificial intelligence, 3D printing, autonomous vehicles, blockchain)	19%	7 (15%)
8	Climate change/increasing volatility of weather	13%	10 (10%)
9	Loss of reputation or brand value	13%	8 (13%)
10	Shortage of skilled workforce	9%	15 (6%)

The highest risk of cyber precedents is characteristic for aviation, aerospace, defense (43%), entertainment & media (40%), financial services (46%), professional services (40%), technology (53%), telecommunications (58%).

International Telecommunication Union ranked countries according to cyber security level (Global Cybersecurity Index). This is an assessment of the computer security of the countries of the world according to the parameters: legal, technical, organizational preparedness, readiness for cooperation, development of the educational and research potential of the country. The UK took the first place in this ranking in 2018 (table 2).

Ukraine took 54th place among 175 countries. Therefore, it needs the more effective system of information security of the country, including of individual enterprises.

Industrial enterprises actively consider the using of the Industrial Internet of Things in their activities.

Table 2

Global Cybersecurity Index 2018 [2]

Member State	Score	Global Rank
United Kingdom	0.931	1
United States of America	0.926	2
France	0.918	3
Lithuania	0.908	4
Estonia	0.905	5
Ukraine	0.661	54

The essence of such a network is that sensors, actuators, controllers and necessary interfaces are initially installed on the equipment. In the future, they provide the information collection. It is the basis for obtaining objective data on the condition of equipment and production processes of the enterprise. The information obtained can be used to prevent unplanned downtime and equipment breakdowns.

The main results of using the Industrial Internet of Things should be an increase in the equipment productivity and a decrease in the production cost. The processes of servicing equipment, logistics, and management as a whole can be change qualitatively.

However, the data received from the devices is not only an opportunity to increase the efficiency of industrial enterprises, but also the threats to their information security.

Already in 2017 attention was drawn to the risks associated with new technologies of the Fourth Industrial Revolution. Among them, the following were named:

- «virtual and augmented realities (next-step interfaces between humans and computers, involving immersive environments)»;

- «ubiquitous linked sensors (also known as the «Internet of Things», the use of networked sensors to remotely connect, track and manage products, systems, and grids») [3].

Global Risks Report 2019 presents the main technological risks and their trends associated with the development of digital computer technologies and the Industrial Internet of Things. They can significantly affect the information security of industrial enterprises:

- cyber dependency that increases vulnerability to outage of critical information infrastructure (e.g. internet, satellites, etc.) and networks, causing widespread disruption

- large-scale cyber-attacks or malware causing large economic damages, geopolitical tensions, or widespread loss of trust in the internet

- wrongful exploitation of private or official data [4].

The goal of achieving information security should be to preserve the value

of information resources for their owner. Immediate measures for protection information are directed not only to information resources, but also to the preservation of certain technologies for their creation, processing, storage, retrieval and provision to users [5].

To organize the protection of information, it is advisable to divide the information into the following groups:

- important information, that is, one that cannot be replaced, the recovery process of which after destruction is impossible or time-consuming and associated with high costs, while its falsification leads to significant losses;
- useful information, that is, it is necessary for the activities of industrial enterprises, but it can be restored without high costs; its modification or destruction leads to relatively small losses;
- confidential information, access to which is undesirable for the part of staff and unauthorized persons, since it can lead to material and moral losses;
- open information, access to which is open to all.

It is logical to find out the threats, from which the information should be protected. Threats mean the actions or inaction of individuals that lead to distortion and destruction of information, the spread of confidential information, the creation of dangerous conditions for information processes and the implementation of information technologies.

Information security threats include the following:

- computer crime and computer terrorism;
- disclosure of information constituting a trade secret;
- an attempt to manipulate public consciousness, in particular, by disseminating false, incomplete or biased information.

Sources of threats to the information security of the industrial enterprises are the following:

- illegal activity of economic entities and individuals in the formation, dissemination and use of information;
- violation of established regulations for the collection, processing and transmission of information;
- intentional actions and unintentional errors of personnel;
- errors in the design of information systems;
- hardware and software failures in information and telecommunication systems, etc. [6].

The main stages of information security management are the following:

- registration of all resources that must be protected;
- analysis and creation of a list of possible threats for each resource;
- assessment of the probability of emergence of each threat;
- implementation of measures for cost-effective information protection [7].

It is possible to create and use such subsystems for effective information protection of the industrial enterprises:

- anti-virus protection subsystem for Internet access, file servers, user workstations, periodic updates of anti-virus databases;

- access control and identification subsystem in the information system;

- firewall subsystem;

- cryptographic protection subsystem, which guarantees the security of information transfer due to data encryption;

- subsystem for ensuring the integrity of information and the software environment through the use of tools for fixing and monitoring the state of the software complex, managing data storage, backup and archiving;

- subsystem of protection against insiders; controlling the actions of violators, implements information security in access control and registration;

- subsystem of protection of database management systems;

- subsystem for detecting the intrusions and attempts of unauthorized access to information resources to implement protective measures, which counter hacker attacks and spam;

- subsystem for protecting mobile devices;

- subsystem for monitoring information security events, which allows detecting timely the threats to the information system and responding promptly to them [8].

Information Security Services are engaged in the following:

- implementation of requirements and rules for the protection of information;

- support the protected state of information systems,

- selection and use of special organizational, technical and mathematical software and measures to protect information systems.

The following approaches are used to ensure the security of computer information systems:

- a selective approach that provides the countering clearly defined threats under certain conditions (specialized anti-virus tools, autonomous encryption tools, etc.);

- an integrated approach that provides the creation of an information processing environment that combines various (legal, organizational, software and technical) measures to counter the maximum number of threats.

For information security, the following measures can be used:

- physical protection of computer systems;

- regulation of technological processes;

- regulation of work with confidential information;

- regulation of reservation procedures;

- regulation of changes;

- regulation of the work of stuff and consumers;

- control and monitoring measures [9].

Information security is an integral part of the overall security of the industrial enterprises. The information security concept should contain the measures related to information technologies (crypto protection, software for administering user rights, their identification and authentication, firewalls to protect network inputs

and outputs, etc.); administrative and technical measures [10].

There are problems in the formation of information security as a system of actions for the creation and management of intellectual property.

The information security system that governs the activities in the field of intellectual property law should be based on the interconnection of economic and legal aspects. It should fully take into account the provisions of international acts.

To sum up, the main aim of the information security system of the industrial enterprises is that it should have a preventive character. The main criteria for assessing its reliability and effectiveness are:

- ensuring the stability of activities, preservation and enhancement of intellectual, financial and material values;
- prevention of crisis situations, including emergency events.

The effectiveness of information security management depends on the joint activities of the team and the heads of industrial enterprises, and requires the managers to develop security strategies and tactics.

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FORMATION OF A LIFELONG LEARNING MANAGEMENT SYSTEM AS FORM OF EDUCATIONAL SPACE PROTECTION

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At present, of course, in order to be competitive in the labour market, higher education applicants no longer need to have a high level of professional training, they must also have new, unusual «properties». Such new properties may be the possession of additional professional qualities and skills that are not provided by training within the standard programs, but which contribute to the expansion of specialists' professional capabilities.

Other, more fundamental reasons, that have determined the need to protect the educational space, including through the formation of a lifelong learning system, have coincided with socio-economic reforms. In order to create a safe working environment for educational institutions, there was a need to reform the education system, make it more flexible, expand the training profile both «horizontally» and «vertically», and as a result, be able to respond effectively to the needs of the domestic and international labour market. Another important point is the search for opportunities to provide young people with alternative ways to get professions. Today, some of them are already being implemented (school-college-higher educational institutions (HEI); college-HEI, lyceum-HEI, school-lyceum-HEI, etc.) [9].

Under the influence of the formation transition to the innovative economy, the formation of the need for lifelong learning as a perspective for the university education transformation becomes relevant. In this regard, one of the new challenges for HEIs is the introduction of lifelong learning ideas and forms into the wide practice of educational institutions, and leadership in the development of lifelong learning systems [1].

The concept of lifelong education appeared at the end of the 20th century, but quickly took one of the key places in the pedagogical and social problems list of a significant number of countries. Actually, this phenomenon can be described as a process of continuous growth of a person's educational potential throughout life,

which provides for both general erudition and professional development of a modern specialist. From an organizational point of view, the functioning of the continuing education institution as a social phenomenon is ensured thanks to the support of the state and society, which together help to maintain the stable activity of educational structures (formal and non-formal, state and private, basic and additional, main and parallel, as well as many others) [5].

In modern transformational environment, where education becomes continuous and covers almost all spheres of human activity, the management of this process in one form or another involves a certain structuring of education and the forms of its provision. In this regard, we can distinguish institutionalized and non-institutionalized forms of the educational process [4].

Institutionalized forms of lifelong learning are forms that are implemented within the framework of institutions operating in society: educational institutions, various registered courses and circles, associations and unions, publicly announced educational programs, etc. A generalized scheme of the institutionalized form of lifelong learning is presented in Fig. 1.

It is quite difficult to isolate and define non-institutionalized forms of lifelong learning, since they are variable, have a weak character of manifestation in the educational space and are associated with a large number of various processes of searching and obtaining information. An example of non-institutionalized forms of education can be, first of all, self-education, which is carried out in a wide variety of forms (from reading fiction –raising the general cultural level, to reading special journals to obtain information that can be used in professional activities).

It is also necessary to highlight a number of objective characteristics inherent in the system of lifelong learning, which determine the possibility of including an applicant in it regardless of the level and / or form of education received:

1. The presence of the necessary network of organizations that are able to carry out educational activities. It should be borne in mind that education refers to licensed activities. Licensing, in turn, assumes that the organization has a normatively defined material base that meets the requirements of educational activities and human resources capable of carrying out such activities. Thus, in the system of lifelong learning should be:

- a sufficient number of organizations to carry out educational activities on a scale necessary for the state development;
- a sufficient number of places for the training of all comers in educational institutions;
- a sufficient number of qualified teachers and other specialists in accordance with the needs of higher education institutions and the desires of educational services consumers [4].

2. The presence of programs, teaching materials, textbooks, training manuals and other necessary informational and methodological resources for the educational activities. Ensuring the learning process for all comers, equipping everyone with

training places in educational organizations, the «range» of educational services must comply with the training technology and the desires of educational services consumers. In the most ideal case, the specified characteristics of the lifelong learning system should correspond to state requirements, which, in turn, should reflect the concept of declared and implemented state policy in the field of lifelong learning [6].

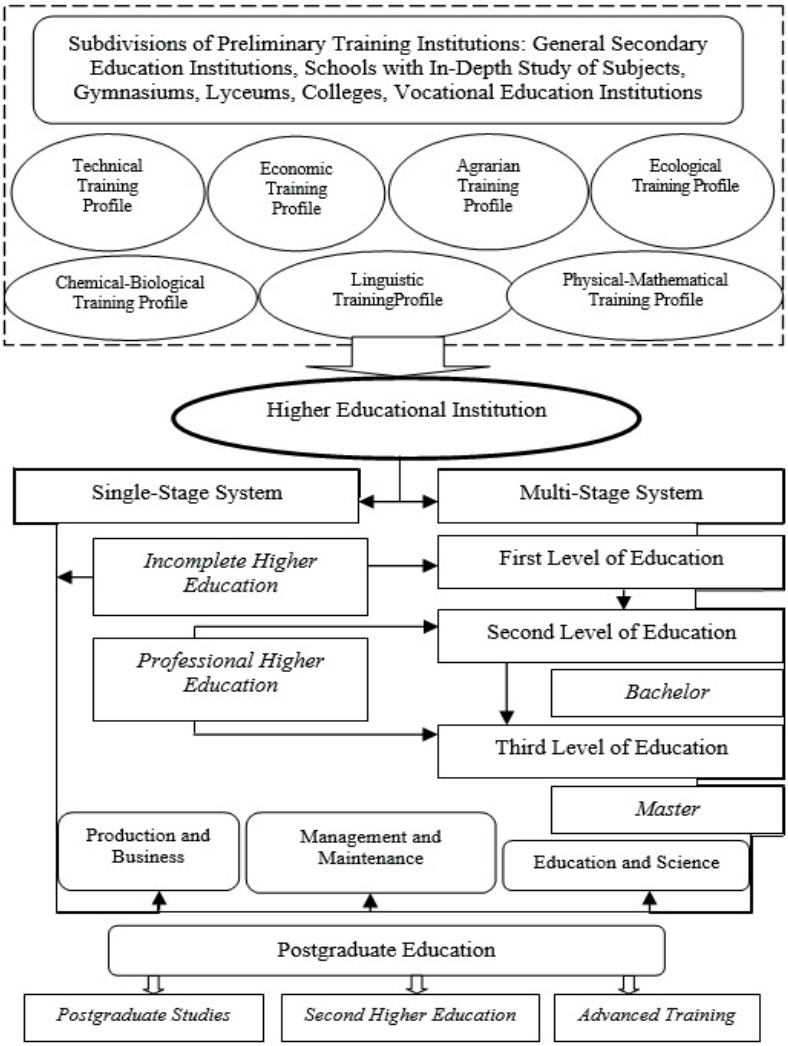

Fig. 1. Scheme of institutionalized form of lifelong learning
[created by the author on the basis of 2, 3, 4]

In the field of lifelong learning, the state, depending on the goals set, can implement such basic policy options:

- lifelong learning is a system that provides staffing for the state economy development. The role and place, and, accordingly, the degree of state regulation and governance are determined by the economic and social development program or other documents of this kind. In this option, lifelong learning is secondary to other economy sectors, and education problems are of interest to the state only to the extent that they contribute to or hinder the solution of priority problems of state development;

- lifelong learning is not a priority task (goal) of the state. The state complies with constitutional guarantees in the field of education and its commitments. Continuity of education (additional education, advanced training) is fully given to educational organizations and employers. The state maintains «neutrality» in relation to the system of lifelong learning and does not distinguish it from other branches of economy;

- lifelong learning is the main priority of the state in its development. All other sectors of the economy and social sphere are secondary to education and are oriented towards the goals of its development. No examples of such an approach have been observed in history; the option most likely should be classified as hypothetical, despite declarative statements about education as the basis for the development of all industries [4, 7, 11].

Such a distribution makes it possible to distinguish two blocks of actions for managing the lifelong learning system: mandatory regulatory actions and management actions, which are determined by the variant of the implemented educational policy.

Actions to regulate lifelong learning can be roughly divided into the following groups:

- the conditions and forms determination for the creation, reorganization and liquidation of organizations in the education system, that is, the procedures for creating an organization, reorganization, liquidation, registration, their presentation in various legal forms, and the like;

- the conditions determination for the functioning of organizations in the system of lifelong learning – types of activities, forms and methods of taxation, obtaining property rights, disposing of it and the like;

- the requirements determination for the processes that are carried out by organizations of the education system;

- the conditions determination of resource support of the education system – the financing procedure, self-sufficiency, their ratio;

- the requirements determination for the results of organizations in the education system: assessment of the organizations performance in other fields of activity;

- the conditions determination for the interaction of educational organizations among themselves and with organizations of other branches [4, 11].

Based on the above, further elaboration of state policy options in the field of lifelong learning policy implementation is possible (Fig. 2).

The main directions of managing the formation of a lifelong learning system can be carried out in two key areas: with the established conditions for the system functioning.

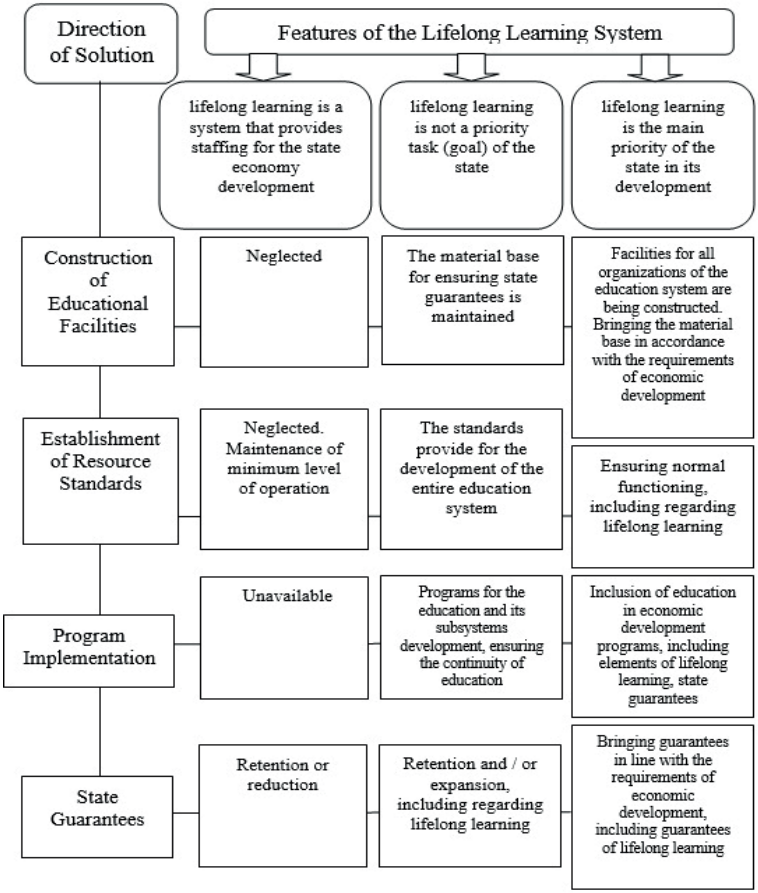

Fig. 2. Features of lifelong learning in the content of decisions
[created by the author on the basis of 4, 11]

1. Determination of the operating conditions of the lifelong learning system units. This direction can be described as state regulation.

2. Management of subjects and units of the lifelong learning system, that is, the implementation of activities to achieve the goals set for the lifelong learning system.

Of course, the real activity regarding the implementation of the functions of

regulation and education management is more complex. As an example, we can cite the necessity of assessing the conformity of the established conditions for the functioning of the education system with the goals set before it and, conversely, determine the conformity of the formed goals.

Summarizing the above, the management of the lifelong learning system can be reduced to the following main actions, presented in Fig. 3.

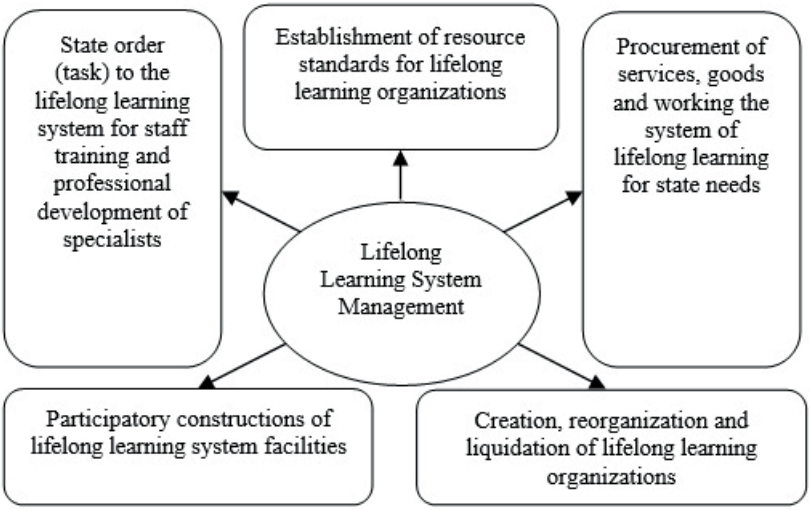

Fig. 3.The main directions of lifelong learning management
[created by the author on the basis of 4, 8]

The detailed content of the management activities mainstreams in the process of formation of the management system of lifelong learning, taking into account the features of this area, is presented in Table 1.

Thus, lifelong learning on the basis of HEI is a model of the future education, this is a new challenge to modern educational institutions. At the centre of education is a person who learns throughout his / her life. Training such a student from the school bench, his / her professional development and retraining throughout his / her entire career, receiving «additional» and «supportive» education throughout his / her life is an ideal model for building lifelong learning based on HEI.

The experience of the world leading countries, that have passed the process of formation of the studied education model, shows that in order to advance the implementation of the model, it is necessary to ensure the fulfilment of a number of conditions, including:

- availability of scientific and methodological support and activities accompaniment for the development of lifelong learning;

- organization of focused activities on the formation of subjects of lifelong learning;

- providing educational applicants and potential entrants with alternative forms of additional education;

Table 1

The main content of educational management decisions [4, 8, 10]

Key management actions	The content of decisions made
1. Development and implementation of targeted educational programs	program development, program approval, inclusion in the budget of expenses for the program implementation, program structure, main goals reflecting the need for lifelong learning
2. Inclusion of education in target programs of other economy sectors	program structure, inclusion in it of the section «education and staff training», decision to include in the budget of expenses for the implementing the section activities
3. Creation of organizations of lifelong learning system	creation (reorganization) of education system organizations, including those that ensure the continuity of education
4. Direct financing of lifelong learning institutions, including infrastructure institutions	inclusion in the budget of expenses for education, retraining and advanced training of employees, for research and development in the education system organizations, as well as in organizations of other industries in the interests of the education system, and for financing additional education
5. Adoption of laws and regulations for the lifelong learning system	development of bills and their main content, development and adoption of normative acts for the lifelong learning system
6. Granting tax benefits to institutions and organizations of lifelong learning system	provision of tax benefits to the education system
7. Providing benefits and preferences to organizations supporting the education system	differentiation and provision of benefits and preferences to organizations supporting the education system
8. State order (task) to the education system for training specialists	development of the regulatory framework of the state order (task) for the training of specialists
9. Procurement of services (goods, work) in the education system for state needs	organization and holding of (closed) tenders for the purchase of goods (works, services) for state needs from the education system organizations
10. Participatory constructions of educational facilities	inclusion of education system objects in the targeted investment program

- creation and development of an innovative model of advanced professional development of scientific and pedagogical staff, including in the field of lifelong

learning;

- strengthening partnerships with the real economy sector, state bodies for the formation of an order for lifelong learning programs, the development of a partner network;
- improving the content and technology of education;
- development of a system for ensuring the educational services quality;
- improving the management efficiency in the education system;
- improvement of economic mechanisms in the education field.

Thus, the main goal of creating a system for managing lifelong learning as a form of protection of the educational space should be to ensure conditions for satisfying the needs of citizens, society and the labour market in quality education by creating new institutional mechanisms for regulating education, updating the structure and content of education, developing fundamental and practical focus of educational programs, the formation of an innovative system of lifelong learning.

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INFORMATION SECURITY OF TEENAGERS ON THE INTERNET

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At the present stage of social development, a result of the rapid expansion of new technologies, the Internet and online communities have become a common and integral part of society. They are characterized as an important part of modern social reality. With their help, millions of people every day without any effort have a chance to maintain existing social connections or engage in the search and development of new ones. Cyberspace is a continuation of real life. It is affordable, fast, simple, user-friendly and is complemented with new features and additional services. Possibilities of virtual communication in such circumstances are practically limitless.

Modern information and communication technologies are opening extraordinary prospects for people. Granting access to multiple vectors of information allows you to acquire social knowledge, gain social experience and realize personal potential in the shortest possible time. Simultaneously, the information presents numerous risks and dangers in a person's life. Due to the enormous amounts of data being received, it is becoming more and more difficult for people to navigate the flow of information. Acquiring the necessary material whilst avoiding threat and manipulation of consciousness and behaviour is a challenge [2, p. 23].

Many scientific works touch on various aspects of interpersonal interaction online, including works by such authors as R. Amichai-Hamburger, O. Asmolov, O. Bayme, V. Barnes, V. Bychkov, D. Walter, O. Webb, K. Witty, K. Joinson, A. Zhichkin, O. Kaminskaya, N. Karpitsky, O. Carr, L. Kompantseva, D. Konidzh, I. Korsuntsev, R. McKenna, N. Mankovskaya, A. Orlov, U. Papacharissi, D. Postemes, A. Wright, G. Rapps, R. Tanis, K. Utz, A. Tsvetkov, N. Tsvetkova, and others.

The beginning of the 21st century is characterized by the development of new information and communication technologies, causing the transformation of social reality and leading to changes in society. Special importance is placed on the intensive accumulation of information and its distribution from the Internet. It has become one of the leading means of socializing teenagers in today's social-cultural conditions.

New information technologies increase the opportunities for adolescents to find educational information, cultural self-improvement, acquaintance with traditions of different countries, communication, a platform to discuss their problems and more. Today, the Internet is becoming a social space for teenagers in which they satisfy the needs of independence, self-affirmation, and expansion of social contacts. Along with many benefits, the Internet has a significant amount of risks that teenagers face while operating in the virtual space. They are one of the less protected target groups since teenagers have not fully formed the ability to collect, analyze and compare information comprehensively.

Formation of safe behaviour in the information society is one of the components of the social policy of the state, as evidenced by the Laws of Ukraine: «On the National Program of Informatization» (1998), «On the Protection of Childhood» (2001), «On Protection of Public Morality» (2003), «On Basic Principles of Information Society Development in Ukraine for 2007-2015» (2007), «On Fundamentals of Internet Regulation» (2011). They emphasize the need for the formation of legal and organizational conditions, for the development of information, the creation of free access to the information environment, the use and sharing of information, the protection of society against cybercrime, the dissemination of products that adversely affect users and the development of safe behaviour in them on the Internet [6].

Modern scientific thought expands the concept of security in the following directions: from national security to the security of groups and individuals; from national security to international security; from exclusively military security to non-military security - political; economic, social, etc.

Information security is a state of protection for the individual, society and for the state's needs for information regardless of internal and external threats. With regards to national interests, information security means the state of protection of the person's, society and state information resources, which ensures the implementation and the progressive development of their vital interests. In regards to the possible negative impacts of different types of information threats – it is the protection of information and supporting infrastructure against accidental or intentional natural or artificial influences that could cause harm to their owners or users. Information security also means the level of protection of the information environment and society. This ensures its formation, use and development for the benefit of citizens, organizations and the state as well as the neutralization of the negative consequences of informatization for society [5].

Today, the concept of «security» goes beyond national economies. The concepts of «global security» and «international security» are introduced and studied in the scientific sphere. The relationship of these concepts with national security and the security of the lower levels - regional, local (enterprise security) and individual is analyzed. International security is a part of global security, which reflects the mega-level conditions for the coexistence of institutional structures. Under these conditions, each member of the world community is free to choose and execute his

or her development strategy in accordance with the principles of globalization. The security of the functioning and development of the economic system involves the interconnection of national security (macro-level), regional security (meso-level), local security (micro-level) and individual security (nano-level), where the security of the individual becomes crucial.

Issues of information security of the younger generation are one of the most important in the process of education and training. With the formation of scientific direction, information security is associated with the names of such remarkable scientists as V. Gerasimenko, P. Zegzhda, A. Malyuk, V. Melshkov, V. Khoroshko, V. Yarochkin, and others.

The issue of information security in pedagogical science is a new and poorly researched field of interdisciplinary knowledge. The methods of teaching and training information security at school to non-specialized specialists and teachers of computer science in particular, are developed by M. Abissova, O. Altuf'eva, L. Astakhova, V. Gritsik, I. Kirko, P. Lomasko, V. Polyakov, E. Tatova, and G. Chusavitina. The problem of providing information security students in the conditions of ZNZ is explored by M. Bocharov, T. Malykh, N. Sattarova, O. Fedosov, and others.

The development of information security, namely safe behaviour on the Internet, is an important area of practice in the international and domestic community. In the regulatory framework of Ukraine (Laws of Ukraine «On Education» and «On Promoting the Social Formation and Development of Youth in Ukraine», National Doctrine of Development of Education in Ukraine, Concept of Education of Children and Youth in the National Education System, National Program «Children of Ukraine») the development of safe behavior of the younger generation is identified as leading tasks of state development.

Ukraine endorsed a special session document in the interests of children at the UN General Assembly in 2002 entitled «A Child-Friendly World», which sets out a plan of action for a safe world for children. In 2008, Ukraine joined the celebration of International Safer Internet Day, which aims to bring together government, private and public organizations to raise awareness in society about the safe use of Internet technologies.

In order to develop the cyber network, ensure broad access for citizens and effectively use its opportunities for the development of national science, education and culture, the Decree «On measures for the development of the national component of the global Internet information network and the provision of wide access to this network in Ukraine» was issued. It defines the conditions for use of the Internet, the dissemination of purely objective information, the guarantee of information security and the protection of constitutional rights during activities on the Internet [6].

Communication has become an integral part of people's lives in all areas of activity. Mobile phones, computers and the Internet have expanded communication. Spatial and temporal boundaries have opened up new opportunities for

communication, education, work, leisure and creative self-realization.

Despite the positive role of modern communication tools and the Internet, there are certain risks that come with the use of information technology. The unsafe information space hides a particular danger for teenagers. The Internet may contain aggressive or socially dangerous content. Favouring the virtual world over the real one has a negative impact on the child's psyche and health. It does not only impair vision, posture and sleep, but also causes anxiety, irritability, social maladaptation and dependent behaviour.

The challenge is to teach children how to use the internet properly. Just as we teach children safety on the street and on the road in real life, we need to teach them safe behaviour in virtual life; on the Internet.

In order to evaluate the experience of preparing specialists for the formation of safe behaviour of teenagers on the Internet, M. Snitko analyzed the experience of the activities of the «Noone's Children Foundation» in Poland. The Foundation's activities are aimed at identifying measures to promote safe behaviour of teenagers on the Internet. The Foundation initiated child safety surveys on the Internet, which served as a basis for the implementation of the nationwide information campaign «Child on the Net». The purpose of the information campaign was to provide training courses for experts on the prevention of sexual exploitation of children on the Internet [6].

Thus, it can be argued that the Fund's leading activity is the training of specialists for the formation of safe behaviour on the Internet. This is significantly different from the leading aspects of the International Association of Internet, INHOPE hotline providers and the European Commission Safe Internet Program [6].

Ukrainian researchers studying the experience of international and foreign programs and associations (INHOPE International Association of Hotline Providers, Program of the European Commission «Safe Internet», «No one's Children's Fund», Center for Safe Internet in Russia, League of Safe Internet) identified the main activities in the formation of safe behaviour of teenagers. They are implemented at different levels of users safe behaviour development.

- creating policy at the international level on safe activities on the Internet;
- research on the problem of children's safety on the Internet;
- examining the risks of the Internet that teenagers experience when engaging in virtual space;
- development and supplementation of legislative documents aimed at regulating the processes of receipt information on the Internet network and its safe use;
- coordination of hotlines and advocacy of sending anonymous messages about illegal content on the Internet;
- fight against illegal content and spam and remove such content from the Internet;
- preparation of specialists for the formation of safe behaviour of teenagers on the Internet;

- informing Internet users about the threats and risks of virtual space;
- providing assistance to teens and parents in cases of Internet risk [6].

Analysis of the content of activities of international and foreign associations, foundations and programs show that today there are no clear recommendations for professionals and parents regarding the safe behaviour of teenagers on the Internet. The proposed measures are mostly not implemented in real life but through Internet networks. They do not have a systematic, complex nature, preventing the proper development of safe behaviour in adolescents.

The following organizations are working on the problem of forming safe behaviour of Ukrainian teenagers on the Internet:

- La Strada Ukraine International Women's Rights Center through an electronic hotline on child pornography;
- International public organisation «School of Equal Opportunities»; Microsoft Ukraine through Skarga.ua, Onland - Child Safety on the Internet and the Coalition for Internet Safety; Kyivstar company with the program «Child Safety on the Internet».

Thus, the analysis of international and domestic experience in the formation of safe behaviour of adolescents allows us to determine the similarities in the work of organizations, associations, foundations and programs. It is creating a policy on safe activity in the Internet at the national level, informing users about the features of the activity and risks on the Internet, sending information to «hotlines» about illegal content, training professionals to form a safe behaviours of adolescents on the Internet.

In our opinion, information provided within the framework of activities of non-governmental organizations and general education institutions is one of the components of the development of safe behaviour of adolescents on the Internet. It, provides a sufficient level of awareness to the users about the risks of the virtual activity but does not create a safe behaviour of teenagers as it requires the introduction of intensive work with them, their parents and social educators. We have attempted to highlight a number of measures not currently being implemented by Ukrainian organizations to regulate the activities of Internet users and to promote the safe conduct of adolescents on the Internet:

- coordination of websites and their content;
- creation of a single network of hotlines;
- fight against illegal content and spam;
- providing assistance to teens and parents in cases where they have fallen victim to threat on the Internet;
- development and implementation of comprehensive systematic programs for the formation of safe behaviour of adolescents on the Internet and self-realization of teens in real life, not in virtual space.

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APPLIED ASPECTS OF SOCIOLOGICAL RESEARCH IN THE FORMATION OF STATE INFORMATION SECURITY

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Trends in information and technological shifts in the conditions of exacerbation of geopolitical competition have led to a radical transformation of the established world peacekeeping and stability system. An information component of the national country security has an acute relevance, which along with political, economic and military resources is considered as the reputational capital of the state and the basic

resource of domination of the recipient country. Political practice demonstrates that the information component of the national country security in the context of information and psychological confrontation is on the agenda in providing competitive non-military advantages and joined competitive positions of the state.

The understanding of the information national security component is facilitated by concepts whose primary purpose is to reveal a system of views, phenomena and processes. In particular, there is the doctrine of indirect action strategy (Sir Basil Henry Liddell Hart) [1], where preventive violations of the strategic stability of the enemy, including the psychological sphere, lead to disorientation and distortion of the confrontation area; soft power (Joseph Nye), which is realized through communicative influence that is persuasive and perceived by the recipient as an attraction rather than as a suppression (intrusion, violence, coercion), which is carried out by economic and military influence or even pressure (hard force); smart power (J. Nye, R. Armitage) [2] as an ability to turn resources into a strategy that contributes to the expected results, as well as a combination of two concepts of hard and soft forces; the theory of nonviolent action (Gene Sharp) [3] through the use of nonviolent political resistance and psychological methods of struggle in discrediting state regimes using public disobedience; rejection of economic, political and social cooperation; a strategy by J. Stein, R. Shaffransky, and O. Jensen, which confirms that conflict resolution is based on knowledge and information that should be seen as a weapon and purpose pursuing the conflict; the concept of cybernetic warfare by J. Arcville and D. Rondell [4] states that, in times of military conflicts, as well as their preparation, the information is crucial and it is a key to success in information and telecommunication networks. The analysis of concepts allows us to understand more deeply the actions of an enemy in the information sphere, the methods and means of conducting the hybrid war.

Thus, the modern megatrends are informatization and globalization as dominant characteristics of the formation of a single planetary society, which require a clear understanding of the regulations of information security, in general, and particularly in Ukraine. They expect the content transformation of the information war in accordance with the geopolitical situation of certain countries, development of innovative communication technologies and modern methods of conducting hybrid wars.

An activation of information security issues in Ukraine is caused by objective factors as Russian hybrid expansion, which extends to European countries, Great Britain, Central Asia, Mediterranean and Africa, other regions of the world. It is implemented within the strategy of neutralizing the impact of the external security environment, aimed at reducing the negative impact of western sanctions and expanding political support for Russia by countries that support pro-Russian orientation.

Instead, pro-Western orientation of a society is affirmed in Ukraine with its established attributes such as independence from the existing political situation, forming it as an element of political consciousness that is capable of making

significant social, political and economic transformations. Using Ukraine as a base for Russian expansion of its geopolitical ambitions, including a buffer zone of NATO, the Russian Federation is spreading opposition to positive developments in Ukraine, using existing instruments of hybrid warfare as in the military area (for example, annexation of Crimea); military operations in the certain areas of Donetsk and Luhansk regions; sabotage actions; enhanced naval presence and deployment of the information and economic component of the hybrid war by instigating separatist sentiment, energy pressure, pressure to land selling, large-scale informational diversions in the regions, and cyberattacks on critical infrastructure objects and other manifestations of cyber-expansion in the country.

Previously, information security has been seen as a state of interest security for an individual, the society and the state in the information sphere and free access to information [5]. But in the conditions of rapid expansion of Industry 4.0 including computer and telecommunication technologies on the one hand, and undeclared aggression from the Russian Federation against Ukraine (and other states), as well as strategic non-military interests from other states on the other hand, information security should be positioned rather as an information security management system prioritizing preventative measures to identify, prevent or eliminate the harmful influence of the information on interests of state, individual or society as a whole. It means that an emphasis in the protection system of information security shifts in the direction of activation of the recognition and neutralization of information threat subsystem. This allows you to view the information security of an object in the light of protecting it from information threats.

Hybrid expansion of the Russian Federation in the form of hybrid warfare requires a thorough analysis of the information component in order to understand the essence of information policy making and the internal security environment (fig. 1). As it can be seen from Fig. 1, the proposed scheme defines Ukraine's place under conditions of the Ukrainian and Russian confrontation as a subject of geopolitics in the information and communication sphere and as an object of information and communication influence by the pro-Russian and pro-European forces. This scheme outlines the main components of the information environment and identifies information security as a result of state information policy. At the same time, the analytical function of ensuring the information security of the state requires additional interpretation of the factors for the information state environment using SWOT analysis. It is worth noting that it is necessary not only to analyze the factors of the information environment, but also to obtain the results of simulation of possible scenarios for the development of Ukrainian and Russian relations, depending on the management decisions using the foresight methodology, which considers rational (analytical) and irrational (subjective) approaches, the proactive position of the subjects according to their variability (those that depend on management decisions) or invariance (those that do not depend on management decisions) of trends (political, military, economic, social, information ones) [6].

Analyzing information trends, such as the formation of a PR-campaign in Ukraine to resolve the Ukrainian and Russian conflict, is a variant trend, while the speed of obtaining reliable information in this matter is invariant.

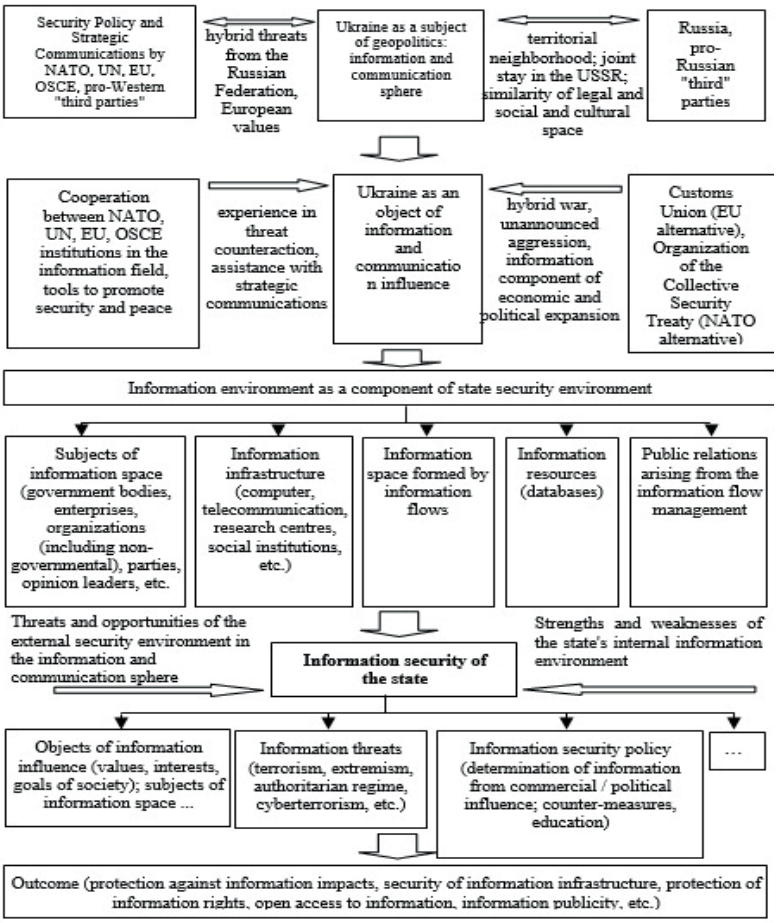

Fig. 1. Conceptual diagram of the essence and components of information security (developed by the authors)

The results of the SWOT analysis of the factors of the state information environment showed [7-10] that the weaknesses of the internal information environment are chaotic, multiple, unpredictable nature of risks and threats to information security. The Internet, as the dominant environment for manipulating public consciousness in the user segment of the next generation Z. Globalization and informatization of society form the sources of cyber-attacks, manipulation, loss

and information distortion. Commercialization and politicization of information policy provide it with a sign of subjectivity. Having closed the foreign language news channel (5 languages) UA.TV, which provided up-to-date information about Ukraine to foreign audiences. High dependence of information security on the country's military and political environment. The strengths are consolidation of Ukrainian society in the fight against the information component of hybrid expansion from the Russian Federation. The positioning of the hybrid war by the Russian Federation against Ukraine as an attack (direct military aggression) attracts the attention of the international community, the authorities and the civil society on the problem of its emergence and solution. Active development of the civil society institute, which forms a demand for social and political programs on TV and on the Internet. Effective policy of confrontation against the information propaganda policy by the Russian Federation is in the internal and external information market.

It is identified threats to the external security environment such as rising costs of cyber-attacks and protection in industrialized developed countries. Lobbying Russian interests in Western Europe to remove sanctions and recognize annexation of Crimea. Ukraine is shown as an important geopolitical point of the logistic system of the Black Sea region in the process of expansion of the Russian Federation on the European continent. Russian provocation of instability of the external security environment (in Eastern Europe; in the Middle East, South Asia, among NATO countries) causes fluctuations in political, economic and information conditions in Ukraine. Multidimensional active information maintenance of the Russian Federation's implementation of the hybrid warfare strategy with the domination of soft power over hard power. Russian pressure on Ukraine is to prevent its joining to NATO and the EU. The manipulation of public consciousness is carried out by the Russian Federation and its supporters. Export of alternative values of the Russian Federation and the spread of anti-liberal ideology. Acquisition of Ukrainian television space to promote pro-Russian information and psychological operations. Opportunities for the external security environment are to form a strategic communication system by creating a system of identification and assessment of information threats. Development of a TV foreign language system to support Ukraine's positive positioning among the international community. Purposeful behavior management of all target pro-Ukrainian audiences of potential information influence by the Russian Federation (based on applied behavior analysis, behavioral sciences, Big Data analysis and cognitive computations). Activation of Ukraine's participation in world geopolitical processes in order to protect the internal information space.

Conducting a SWOT analysis, we have found that the goal of activating the mass media and Internet resources is considered as a powerful information tool for the consolidation of society in the process of ensuring its information security. While the sociological survey was aimed at revealing a public opinion on the problem aggravation of Ukrainian and Russian relations, the priority media used

by respondents to obtain information, and also provided for segmentation of respondents by signs of involvement in Ukrainian and Russian relations. Sampling parameters were used for the research, such as sample type – simple random; type of indicator – average number; the general population (n, people) – finite. The sample size (n, people) is calculated by the formula 1:

$$n = (t2 * S2 * N) / (\Delta 2 * N + t2 * \sigma 2)$$

where t is the table value of the Student's distribution (for probability P = 0.95, t = 1.96); S is the variation found for the sample (=0.5); S2 is the variance of a random variable; Δ is the permissible margin of precision at 5% (Δ = 0.05).

The general population of Lviv region as of May 1, 2019 was 2516780 people [11]. Taking into account the part of the population aged 15-64 (69%) and 65 years and older (15%), the general population will be: 2516780*0.84 = 2114095 people (the survey was conducted in the period 01.01-17.01.2020).

The sample size of the research is:

n=(1,962*0,52*2114095)/(0,052*2114095+1,962*0,52)=384

It should be noted that the information obtained from the survey facilitates to understand the changes in Ukrainian and Russian relations and gain hypothetical knowledge of the situation in Ukraine using certain indicators, as well as obtaining a certain amount of information as a percentage of the analysis results. At the same time, a lot of reliable data and information concerning the Ukrainian and Russian relations on information security formation are generally missing or only available to a limited number of experts [12].

Google Trends service analyzes the keywords that respondents use in the process of interpreting Ukrainian and Russian relations, which include Russian aggression, hybrid warfare, information security, and social networks as the most common ones. The survey is selected as a tool for the research, the survey tool is questionnaire, the distribution channel is Google Forms.

As a result of the survey, the question «How much are you interested in the problems of the development of Ukrainian and Russian relations?» received the following answers and the largest proportion of respondents (48.5 %) said that encountering some information about Ukrainian and Russian relations, their attention was drawn to them, 31.7 % were sometimes interested in developing relations between the Russian Federation and Ukraine, 12.9 % are constantly searching for information and only 6.9 % of the information is ignored.

As the main event that led to the deepening of the crisis in Ukrainian and Russian relations, the dominant number of respondents (42.6 %) associate with the annexation of the Crimea by the Russian Federation (2014); 22.8 % – with the Ukrainian preparation of Association Agreement with the EU (2013); 16,8 % – with military actions in Donbass; 8.9 % – with nuclear disarmament of Ukraine

in accordance with the Budapest Memorandum (1994); 4.7 % as a conflict over the division of the Black Sea Fleet based in Crimea (1991); 4.2 % cannot answer.

The top three sources where respondents most often get information on relations between Ukraine and Russia are TV (49.5 %); online publications in Internet web applications (21.6 %); social networks (14.3 %); newspapers, magazines, radio broadcasts, in-service messages etc. (14.6 %).

Among the television channels covering Ukrainian and Russian relations, the most frequently viewed by the respondents are Priamyi (Direct channel) 38.3 %; 112 Ukraine 26.8 %; ZIK 14.0 %; NewsOne 8.9 %; ICTV 4.7 %; other channels 7.3 %.

Among the social and political programs that report Ukrainian and Russian relations, the respondents trust such talk shows and analytical programs as talk show «Echo of Ukraine» with M. Ganapolsky on Priamyi channel 19%; talk show «Live» (hosted by S.Orlovska and M.Veresen) on Priamyi channel 14.8 %; the talk show «Veresen + 1» with M. Veresen on Priamyi channel 10.9 %; talk show «HARD from Vlashenko» on ZIK channel 15,9 %; talk show «Pulse» on 112 Ukraine channel 11.5 %; talk show «Evening Prime» on 112 Ukraine channel 11.2 %; talk-show «Right to Power» (hosted by Natalia Vasylchuk) on 1+1 channel 8.9 %; talk show «Details on Priamyi» with V. Frolova and O. Blyznyuk 3.9 %; other channels 3.9 %.

Respondents found extremely low activity in listening to radio programs. The distribution of respondents who listen to news from radio stations is as follows: Radio NV 13 %; Ukrainian FM-format of radio stations 11,2 %; UA: Ukrainian Radio 7.3 %; Radio Ukraine International 3.9%; Public Radio 3.9 %; The first channel. Ukrainian Radio 7.8 %; Radio Svoboda 8.9 %; others 4.7 %; and 39.3 % don't listen to radio broadcasting.

The distribution of respondents visiting social networks is established in order to receive news about Ukrainian and Russian relations. 27,6 % of them use Facebook; 10.7 % – Instagram; 16.9 % – Telegram; 8.6 % – Twitter; 31.3 % – YouTube; 4.9 % – others.

On the question «What information site do you use to read news about Ukrainian and Russian relations», respondents answered that 14.8 % from korespondent.net; znaj.ua 7.0 %; ua.news 18.2 %; UKR.net 21.9 %; 24TV.ua 14.8 %; other 11.2 %; 12.1 % do not seek information on this topic.

74.2 % of the respondents believe that the leadership of Ukraine does not make enough efforts to return Crimea.

Concerning the consequences that may occur as a result of the adoption of the Law of Ukraine on the special order of local self-government in certain districts of Donetsk and Luhansk regions (2019), the respondents' opinions were capitulation of Ukraine with further annexation of territories in certain districts of Donetsk and Luhansk regions under the scenario of Crimea annexation 50 %; autonomy of regions in Ukraine 14.8 %; maintaining the international sanction regime for the purpose of secession of Crimea 7 %; deployment of peacekeeping operations in certain districts of Donetsk and Luhansk regions to control state borders and the

territory of Ukraine 3.9 %; completion of military operations in Donbas 18.2 %; the others 6.1 %.

The distribution of respondents concerning professional performance of their responsibilities within the Donbas hostilities is the following: 9.9 % as volunteers; 11.7 % as combatants; 17.4 % as activists of certain social groups; 10.4 % as public or political figures; 50.6 % are not related to the military action in Donbass.

On the question «Do you review foreign-language channels of foreign countries for the purpose of obtaining information of alternative interpretation regarding Ukrainian and Russian relations», 58.3 % of the respondents constantly review; 27.4 % review in case of threats in Ukrainian and Russian relations; 14.3 % do not view at all.

Thus, considering the basic concepts of conducting information wars, it is established their practical application and effectiveness in the process of propagation of undeclared aggression by the Russian Federation. The analysis of the information and psychological component in the Ukrainian and Russian confrontations confirmed the deepening of information dysfunctions of civil society.

The expansion of Industry 4.0 and the presence of misinformation and psychological influence by the Russian Federation on Ukrainian information security requires increased attention to preventive measures for identifying threats by creating a subsystem for their recognition and neutralization.

The proposed conceptual scheme of the essence and components of information security defines the place of Ukraine in the conditions of Ukrainian and Russian confrontation and promotes a deeper understanding of the actions that take place.

In the direction of determining the applied aspects of the impact of sociological research on the formation of information state security, it is shown that the rapid development of global political and geopolitical competition requires the formation of a system of information state security, where a strategic national resource should be information resources, network infrastructure and communication technologies.

According to the results of the conducted SWOT analysis of the factors of the information state environment, it is established that the tendency of globalization and informatization of the society forms the basis for the emergence of risks in the information environment.

It is thought that enhancing the activity of mass media and Internet resources should be a powerful information tool for the consolidation of society in the process of ensuring its information security. It is proposed to identify destructive transformations of national values in the information sphere by conducting sociological surveys and public opinion analysis. Support for the representativeness of the statement is provided by the identified trend that the Internet environment is dominant in the field of manipulation of public consciousness, especially in the user segment of the new generation Z.

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INFLUENCING FACTORS OF SECURITY MEASURES ON THE FORMATION OF PERSONNEL POLICY IN LOCAL SELF-GOVERNMENT BODIES

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In the context of numerous reforms that are taking place in our country we can face the lack of legal, economic, political, managerial, social, humanitarian, psychological and pedagogical awareness, which is of high importance for regulatory, organizational, administrative, consultative and advisory support to the effective work of governmental institutions. The number of officials in local self-government bodies, who have received education not aimed at pursuing their professional activity, is still significant. The turnover of staff is increasing.

All stated above necessitates the urgent need for specialists in public management and administration, highly qualified managers and local governmental officials. They should be trained in modernized authorities, have the systematic theoretical knowledge; possess practical skills and abilities to solve current problems and priority tasks of territorial communities and the country in general. They also have to be able to provide effective targeting management in marketing conditions, adhere to the European level of public services and ensure their quality.

In the light of recent events in Ukraine, the issue of establishing and improving the Institute of Public Services becomes especially urgent. As it is a determining factor in the realization of citizens' rights.

Nowadays, the level of public trust in government structures is extremely low. Taking into account that Ukraine is positioning itself as a democratic country, an important factor in raising the level of confidence is the improvement of mechanisms of relations between the state and citizens. The absence of democratic traditions in the relationship between the state and the citizens, institutional standards of professional activity of local self-government bodies and civil servants, the actual unpreparedness of local public officials and civil servants to develop and implement effective policies adversely affect the public's confidence in the public authorities and appreciation of the state [8].

Therefore, sensing the pressure of society, legislators pass a number of laws, including anti-corruption laws, which force the authorities to be «closer» to the people, allow to analyze the work of public authorities and influence the situation in territorial communities [11].

At this stage, the concept of e-government is emerging. It plays an important

role in the way of establishing democracy and transparency of the state not only to its citizens, but also to the world community [9].

The emergence of e-government is associated with the changes in government models, that were taking place in the late XX century in many developed countries. These changes in government models have been carried out to make the management system relevant to the economic, social and informational transnational challenges of the times. The main shortcomings that have necessitated the reform of the whole system of public administration are the crisis phenomena in public administration (bureaucracy, excessive centralization, unjustified hierarchy), unification of management and administration, as well as the costly nature of public administration [2].

Today, there are several competing approaches to defining «e-government», none of which has yet been granted official status.

It is suggested to take as a basis one of the most widespread concepts of «e-government». It is formulated by the Institute of Modern Development jointly with the Institute for the Development of the Information Society.

«E-government is a system interacting public authorities with the population. They are based on widespread use of information technologies. The Internet is included as well, in order to increase the accessibility and quality of public services, reduce the time of their provision, and reduce the administrative burden on citizens and the organization conditioned on their receipt» [10].

E-government is the only infrastructure for interdepartmental automated interaction between public authorities and local governments among themselves, with citizens and businesses. The introduction of e-government involves the implementation of a comprehensive and individualized approach to the provision of public services to users while their removal from direct contact with public officials. E-government is one of the determining factors and catalyst for administrative reform. It can serve as transformation in the activities of state and local self-government bodies, their interaction with users and private structures.

In general e-government has its components – the spheres or industries within which there are a certain interaction and the systems of service delivery. In addition to e-Government, these include e-Parliament, e-Justice, e-Business, e-Learning, e-Health [7].

E-Parliament is a new form of participation of citizens and civil society organizations in law-making processes. It also involves organizing the activity and interaction of the subjects of legislative initiative and other participants of the legislative process on the basis of using ICT at all stages of law-making. They start from identifying the needs for the legal regulation of certain public relations, planning the drafting and developing of the bill prior to its submission and consideration in the legislative (representative) body, signing and publishing the law.

E-Justice, in its broad context, is understood not only as e-justice, but also as a combination of all related processes, including the organization of court activities

not related to the administration of justice (fig. 1).

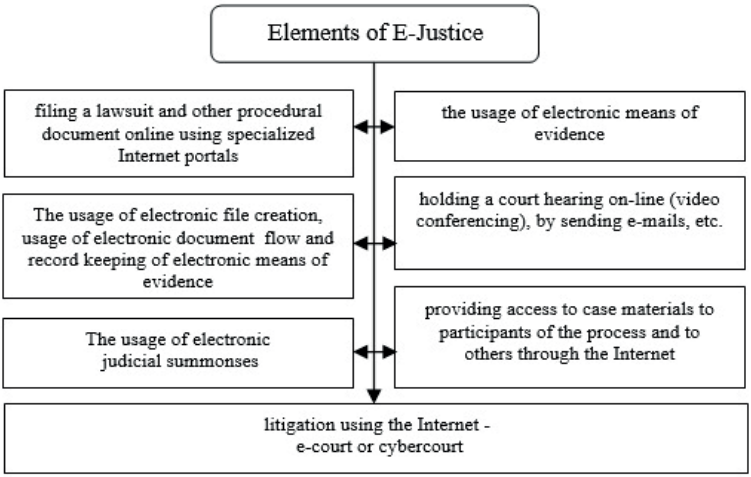

Fig. 1. Elements of e-justice [created by the author on the basis of 4, 6, 10]

E-Business is any business activity (elaboration and production of products, integrated production management, energetic, material, financial, labor or risk management, sales, etc.), which is carried out using ICT.

The most important component of e-business is e-commerce – any form of agreement whereby parties interact with the use of ICT, systems and networks.

The main types of commercial activity include trading platforms (online exchanges, auctions, catalogs of goods and services), electronic procurement management, financial services (online payment systems, exchange offices, online banking, online trading), investment funds, internet- shops, information brokerage, online information business (periodicals, news sites, etc.), communications and communication services, web-mastering (web-site creation, web-programming, web-design), internet franchising, and internet leasing and more.

E-Education is a comprehensive system for providing all education services at national or regional level. Such services include obtaining ICT education, providing information on educational institutions and training organization, nationwide certification (testing), organization of admission to educational institutions, etc. An important component of e-Education is distance learning – a learning process in electronic form via the Internet.

E-Health is a system of management of state and regional medicine, It is based on ICT and regulatory and methodological base, which allows to realize the whole complex of providing medical care to the population. Its component is telemedicine – a set of organizational, technological and financial measures that provide the activity of a system of remote consultative and diagnostic medical service. With

this service the patient or the doctor who directly exemines or treats the patient, receives remote consultation of a medical specialist using modern ICTs [3, C. 85].

The aim of implementing e-government in Ukraine is to achieve European quality standards of electronic public services, openness and transparency of the authorities for all the people, citizens, non-governmental organizations and business structures.

All the above is not about trivial informatization of the existing system of public administration, but about the use of ICT opportunities to become a state that is oriented to meet the needs of the individual and the citizen (fig. 2).

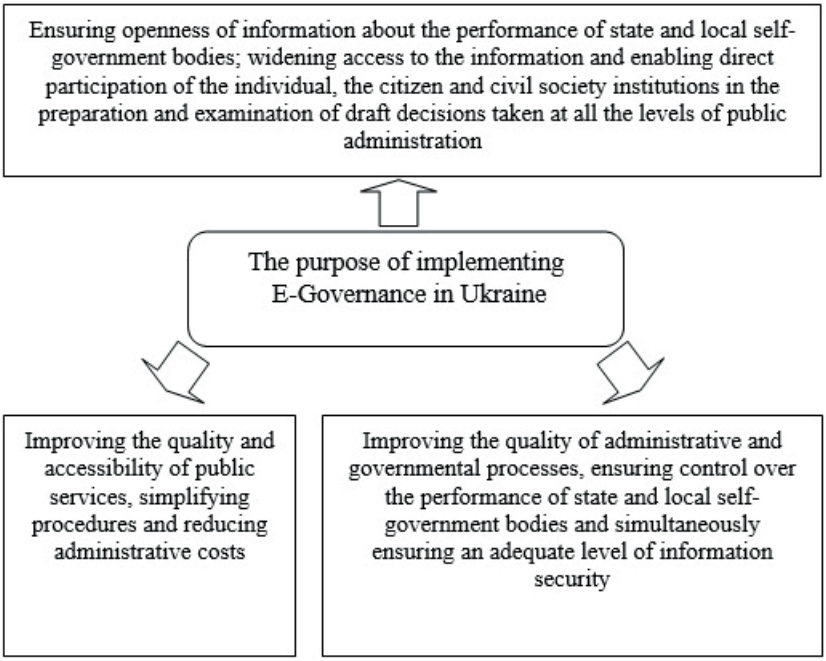

Fig. 2. The purpose of e-Governance in Ukraine [formed on the basis of 7, 10]

E-governance in classical understanding consists of several basic models or interrelated spheres. They reflect the relationships and the interaction between the subjects of public life. Models of e-governance by types of stakeholder interactions are listed in table 1.

In the context of Ukraine's integration aspirations, the introduction of European norms and standards for the implementation of state information policy, the use of domestic and foreign experience are of particular importance. The implementation of the e-government system allows the authorities to adjust administrative processes in a certain direction, to improve the organizational, legal and resource mechanisms of public administration [1].

Table 1

E-governance models by stakeholder engagement types

Models of e-government and their designations		The subjects of the interaction
G4G	government for government	Public authorities and levels of government
G4B	government for business	Public authorities and enterprises (businesses)
G4C	government for citizens	Public authorities and citizens
G4E	government for employers	Public authorities and civil servants

Legal support is one of the prerequisites for the creation and proper functioning of e-government. It aims at regulating relations in the sphere of informatization in terms of providing information needs of the society, protecting the rights of consumers of e-services and establishing competence. It also coordinates the activities of state bodies in terms of functioning e-government.

There is a need for a range of documents that will set out the general frameworks, strategies and specific standards for e-government and the sphere of creation and use of information and communication technologies in public administration, between governmental entities and citizens. A perfect legal framework will help to eliminate the backlog of legislation in this area from the needs of society and the nature of public relations. It will also assist in creating a coherent legal system that is in harmony with generally recognized norms and principles of international law [8].

Therefore, based on the above, it is safe to say that the state has made a huge legislative step towards the approach of public authorities and their transparency to citizens. However, it is worth noting here that with all the aspirations of most heads of local governments to comply with the above laws, there is a number of compelling circumstances.

The first and most important of these is the lack of skilled workers who will enforce the laws in the sphere of providing public services. This problem is particularly acute in rural areas. Of course, such services can be «purchased» by entering into an appropriate agreement. However, financial resource constraints make the above difficult.

Therefore, the heads of local governments literally declare hunting for skilled workers. They promote their staff development in every way or carry out retraining of employees and apply incentive payments in order to increase the motivation for highly professional, effective and quality work within the payroll.

Thus, the quality of personnel policy pursued by the heads of public authorities directly affects the performance of its employees. Consequently it affects the performance of their government functions and powers to meet needs of citizens, development of territorial communities and the state as a whole.

Democratic restoration and reconstruction of Ukrainian statehood leads to the search for a new model of local self-government. It should be based on the

concept of effective / open / democratic governance that has become part of the European administrative space. Thus, in 2001, the European Commission approved the White Paper on European Governance, which identified five basic principles of good governance, namely openness, citizen participation, accountability, efficiency and coherence. Each principle is essential for establishing effective democratic governance. Such principles are not only the basis for the functioning of the public administration system in the EU Member States, but also are applied at all levels of government – international (European), national, regional and local.

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FORMATION OF SCHOOL HEADMASTERS' MANAGERIAL COMPETENCE TO ENSURE THE INTERNAL SYSTEM FOR EDUCATION QUALITY ASSURANCE

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A modern approach to substantiating the education structure and content is being carried out today in the context of decentralized management, expanding the powers of comprehensive secondary schools (CSS), developing education variability and differentiation, individualizing instruction, increasing the role of research activities, expanding range of educational services taking into account social partnership. In general, these processes are aimed at Ukraine's integration into a single European educational space, but, unfortunately, at present they have some negative consequences: the emergence of an imbalance in the education content and integration, pupils' overload, the decline in the quality of the educational process and the level of graduates training.

The burst of innovative activity in education in recent years indicates that Ukrainian education has been actively involved in the search for answers to the questions posed by the current situation in the international educational services market. It is primarily about modernizing the education content, changing training models, approaches to forming the management structure. In the educational process, ideas of humanization and humanitarianization are becoming more and more embodied.

Currently it should be noted that as a result of reducing administrative pressure

on educational institutions the intensity of teachers' activity in the field of innovation has increased, while the results achieved are not fully consistent with the goals set, therefore, it is impossible to talk about diagnostic goal setting [7]. In general, updating education is often unsystematic. Due to the thoughtlessness and haste in the implementation of many of the useful undertakings, far from increasing the education quality has even decreased.

The reasons are insufficient consideration of the laws development, logical connections, internal orientation of educational systems, insufficient study of theoretical and methodological foundations in the education management. The materials of our theoretical study confirm that in the intraschool management theory the issues of a rational combination of functional-linear and program-targeted quality management structures are not completely resolved (Ye. Hrykov, M. Kirichenko, V. Pikelna, T. Sorochan, G. Yelnikova and others). This also applies to issues of distribution and correlation of the main management functions between the management subjects. Existing achievements do not yet determine the formation of such a promising area of pedagogy as the education quality management, but sufficiently create theoretical prerequisites for this, they are an important source of transformation of existing knowledge into higher order knowledge. The content analysis of literary sources, the real practice of managing the educational process quality in the system of general secondary education made it possible to formulate the main contradictions explaining the relevance of the study between: a) the increased demands of all spheres of Ukrainian society for the education quality and the slow development of the modern system of general secondary education, the dominance of traditional ways and approaches in it; b) the need for continuous monitoring of the quality of various elements of the educational process and the lack of common assessment methods and procedures, as well as generally accepted methodology for measuring the quality parameters of objects and processes.

It should be noted that the problem of quality assurance in the activities of educational institutions received a regulatory basis for the first time in the Law of Ukraine «On Higher Education», which entered into force in 2014 (Article 16) [8]. But it was only about higher education institutions. And only in the Law of Ukraine «On Education» [7], adopted in September 2017, the definition of the essence of the concepts «quality of education» and «quality of educational activity» was first recorded, and the approval of the system of education quality assurance as an education system integral component was codified generally.

In the scientific and pedagogical literature there are many different definitions of quality in education, which indicates the complexity and versatility of this concept. Therefore, the vision of education quality is not a unitary concept, but provides for multidimensional perspectives based on the recognition of the fact that education has not only an instrumental narrow practical goal.

The classic definition of educational quality was given by Philip H. Coombs: «Qualitative dimensions means much more than the quality of education as

customarily defined and judged by student learning achievements, in terms of the traditional curriculum and standards. Quality, as viewed here, also pertains to the relevance of what is taught and learned – to how well it fits the present and future learning needs of the particular learners in question, given their particular circumstances and prospects. It also refers to significant changes in the educational system or subsystem itself, in the nature of its inputs (students, teachers, facilities, equipment, and supplies); its objectives, curriculum, and educational technologies; and its socioeconomic, cultural, and political environment» [3, p.105].

According to some authors, the education quality can be determined in terms of the goals that are achieved through education. And some authors (Hans F. M. Crombag) propose to use the term «educational efficiency» instead of the term «quality of education» [4].

Del Goddard and Marilyn Leask defined quality as simply satisfying client requirements. The list of education clients includes pupils, parents, teachers, employers, and the government. Of course, each client has a different view of the quality characteristics [6].

VVOB (Flemish Association for Development Cooperation and Technical Assistance) defines quality education as one that provides all pupils with the opportunities, they need, to become economically productive, develop sustainable livelihoods, contribute to the development of peaceful and democratic societies, and enhance the individual well-being [5].

The Law of Ukraine «On Education» defines «the quality of education» as «compliance of the learning outcomes with the requirements established by law, the relevant standard of education and / or the agreement on the provision of educational services», and «the quality of educational activities» as «the level of organization, provision and implementation of educational process, ensures that individuals receive a quality education and meets the requirements established by law and / or an agreement on the provision of education services» (Article 1, Part 1, paragraphs 29 and 30) [7]. Therefore, the quality of education is considered in the indissoluble unity of the process (activity) quality and the result quality [10, p. 44]. The quality of the educational process (activity) is an integral component of the education quality, which depends on the educational environment quality, includes the qualitative and quantitative characteristics of the educational process, the quality of teachers' professional competence, the quality of organizational and managerial competence [2].

It is important to note that quality management is based on the principles of comprehensive quality management (Total Quality Management) and involves the use of science, effective technologies for the goods and services production. Quality management is proven for decades and the world-wide-recognized ideology of ensuring the continuous improvement of product quality, gaining advantages in a competitive environment as a fundamental principle for the production and the market development and self-organization, in particular in the education field.

To date, the implementation of quality management and its technologies as a means of modern effective management of comprehensive secondary school (CSS):

• is a requirement of education law;

• provides for a shift of emphasis from external management to internal management;

• requires the establishment and functioning in all CSS of an internal system for education quality assurance.

In our opinion, the heads of CSS should take into account that the concepts and quality management procedures are defined by international and national standards in the field of quality management, the main of which are:

• State Standard of Ukraine. 2008. ISO 10005:2007: Guidelines for quality plans (ISO 10005:2005, IDT).

• State Standard of Ukraine. 2013. ISO 9004:2012: Managing for the sustained success of an organization. A quality management approach (ISO 9004:2009, IDT).

• State Standard of Ukraine. 2016. ISO 9000:2015: Quality management systems. Fundamentals and vocabulary (ISO 9000:2015, IDT).

• State Standard of Ukraine. 2016. ISO 9001:2015: Quality management systems. Requirements (ISO 9001:2015, IDT).

It is obvious that as a result of studying these and other documents and materials on quality assurance issues, heads of CSS should form a holistic and uncontroversial view of quality management as a new ideology of managerial activity, as an «axis» on which all their managerial actions should now be «strung». This view consists of the following important points:

1. State Standards of Ukraine in the field of quality management [11 - 14] are applicable to all organizations, regardless of their size, complexity and business model. The goal is to increase the awareness of organizations seeking to achieve sustainable success through the implementation of a quality management system regarding themselves, their responsibilities and obligations to clients, stakeholder expectations, and also to achieve satisfaction with their services.

2. These standards do not in any way require:

• uniformity of structure of different quality management systems;

• harmonization of documentation with the structure of these standards sections;

• use of these standards' specific terminology within the organization;

• their use for the purpose of monitoring, since they are not regulations.

Instead, these standards provide important guidelines for achieving sustainable success by any organization in a constantly and rapidly changing environment, and subject to the growing influence of service clients and all stakeholders on the organization itself and its further history.

The potential benefits to CSS of implementing quality management include:

• the ability to provide an educational service that meets the personal educational needs of clients, and also meets applicable requirements;

• creating opportunities to increase satisfaction of educational services clients;

• taking into account the risks and opportunities associated with the environment and goals of the educational institution;

• ability to demonstrate compliance with established requirements for the internal system for education quality assurance.

The need to introduce the internal system for education quality assurance in CSS is a requirement of the legislation (Article 41, Parts 2, 3 of the Law of Ukraine «On Education») [7]. The purpose of establishing and functioning of the system for education quality assurance in Ukraine is defined as «guaranteeing the quality of education; … continuous and consistent improvement of the education quality» (Article 41, Part 1) [7]. In addition, the education recipients have the right to «quality educational services» (Article 53, Part 1), and the head of the educational institution within the limits of the authority granted to him «ensures the functioning of the internal system for education quality assurance» (Article 26, Part 3) [7].

In the field of general secondary education, there is no established systematic practice of using quality management, and the norms of modern legislation on education and the results of pedagogical research on issues of education quality assurance are not harmonious with international and national standards in the field of quality management. This circumstance objectively determines the risks to the creation and functioning of the internal system for education quality assurance in CSS, necessitates an adoption of compromise solutions and replace the real systems with their models at the initial stages of implementing the internal system for education quality assurance. It also determines the need for scientific research and continuous improvement of already implemented internal systems for education quality assurance.

The development and use of an internal system for education quality assurance in CSS without implementing quality management in it is meaningless and will not guarantee high results, since it will be the use of a new tool in the old conditions and without an understanding of the ideology and technologies of modern management.

Attempts to use quality management and internal system for education quality assurance in an educational institution without regard to the achievements of pedagogical science and successful practice are conservation of the past and have no future prospects.

The internal system for quality assurance of CSS performs the following functions:

• covers the actions by which an institution identifies its goals and determines a set of processes and resources needed to achieve the desired educational quality outcomes;

• manages the quality assurance processes and resources that are needed to meet the personalized educational needs of educational service clients and obtain outcomes for stakeholders;

• optimizes the use of resources;

• provides means of identifying actions to address unforeseen consequences in

the provision of educational services.

Regardless of the CSS specifics, the development and implementation of an internal system for education quality assurance is a direct and undeniable duty and vocation of the director of the educational institution as the first manager of the organization, and this matter should not be delegated to either deputy heads or other pedagogical workers or structural units, employee associations and the like.

That is why the director of the educational institution should be the first and very thoroughly to study, in addition to the legislation on education, the State Standards of Ukraine «Quality Management Systems» [12 - 14], to learn from the specialized literature on quality management issues, to review the experience on the establishment and ensuring the functioning of quality management systems of different organizations and educational institutions in particular. In this work assistants will be methodological recommendations [1; 9] and a large number of officially published materials on the quality of products, services and processes on the Internet.

However, studying the State Standards of Ukraine «Quality Management Systems» is not an easy, since the directors of educational institutions lack experience and skills in working with such documents, and the provisions of these documents are general, need to be «detailed» taking into account the peculiarities of such a service provider as modern CSS, achievements of pedagogical science and practice.

The results will be significantly higher if the director of the educational institution undergoes special training in the educational (certification) program on quality management. Constant consultation with specialists, for example, quality experts, will also be useful.

However, the lack of specialized training or constant consultation with a quality expert is not critical, since the stated goals can be achieved through self-education.

The result of this should be the «acceptance» by the director of the educational institution of the values of quality management and the awareness of the need to implement an internal system for education quality assurance, as well as the existence of a holistic primary understanding of management activities in the field of education quality.

The introduction of an internal system for quality assurance is the school's strategic decision that can help improve its overall effectiveness and provide a solid basis for initiatives to ensure its effective and sustainable development.

Therefore, in place of the ideology of «standards management», which was widely used in the second half of the twentieth century and was not focused on the individual needs of service clients, comes the ideology of «quality management». This ideology in the field of education is capable of satisfying the personalized educational needs of educational service clients and the expectations of the stakeholders, involves compliance with national standards in the field of quality management, harmonized with international ISO standards, using the scientific

achievements and the best international experience.

Thus, the internal system for education quality assurance of WESA is the main quality management tool that can ensure a constant increase in the level of the quality of education (educational services) and significantly improve the quality of educational activities (business excellence) of an educational institution.

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GAME-THEORETIC MODELING OF NEGOTIATIONS BETWEEN UKRAINE AND RUSSIA IN A HYBRID INFORMATION WAR

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Today the real plans of the government to return Crimea and normalize the situation in Donetsk and Lugansk regions are unknown to the people. This makes it impossible to attract a wide range of scientists, analysts and experts to discuss the situation and to the formation of public opinion. It seems that the government focuses only on foreign sanctions and has very little effect on changing the situation for the better. This position is especially evident in relation to Crimea: for the public of Ukraine, the government offers nothing but slogans such as «Crimea will be Ukrainian».

At the same time, the situation around Crimea and the Donetsk and Lugansk regions is becoming increasingly aggravated. As a result, continued disregard by the government of current problems, hiding from the public plans to reduce tension leads to increased tension among the population of Ukraine.

Thus, the development of approaches to the project of returning the Crimea and normalizing the situation in Donetsk and Lugansk regions is an urgent scientific problem and its practical value for Ukraine is to ensure national security and further economic and social development

The collapse of the USSR has led to the fact that the system of agreements on collective inviolability of the borders of the countries which was formed during the Cold War [1] has lost its validity. Initially, new independent Baltic countries –Estonia, Latvia and Lithuania were created. Other countries of the former USSR gained independence as a result of its destruction as a sovereign state. German unification happened. The disintegration of Yugoslavia and the creation of independent countries in its territory. This was accompanied by direct hostilities. Finally the peaceful breakup of Czechoslovakia into two new separate countries – the Czech Republic and Slovakia – was happened.

Thus, from the early 1990s to the present day, Europe's political map has been changing almost constantly.

The Russian Federation has also created several situations that have led to the creation in the independent countries – Moldova and Georgia – the separate regions outside the legal field of these countries. However, the Russian Federation used direct military aggression only in Georgia. In Moldova, the situation is similar to the situation in Ukraine for certain regions of Donetsk and Lugansk regions.

Thus today Ukraine doesn't governed by international legal law. This right allows for direct military aggression which is aimed at:

1) annexation of the territory that previously belonged to another country (Crimea);

2) the division of a previously independent country into separate independents legally (Yugoslavia) or in fact (Georgia);

3) the creation of non-controlled territories in the previously independent countries (Prydnistrovie in Moldova, Kosovo in Serbia, Abkhazia and South Ossetia in Georgia, and now Donetsk and Lugansk «independent republics»).

This compels Ukraine to find the new opportunities that can be based on both multilateral international treaties and bilateral international treaties.

Today the only multilateral agreement which Ukraine can use is the Budapest agreement. It was signed in 1994 by governments of nuclear power countries and had guaranteed the territorial integrity of Ukraine. One of the signatories of this agreement was the Russian Federation. Opportunities and prospects for Ukraine's activities in this direction were offered in detail in [2].

The so-called «Minsk Agreements» as the course of events over 2 years has shown are legally inoperative. As experience has shown in the implementation of these agreements, Germany and France are unable to enforce them. Now there is no mechanism for compliance the Minsk Agreements: neither to verify their implementation nor to be held responsible for their failure.

Economic and political sanctions imposed by a number of countries (for

example, for Russia) have also proved ineffective. Moreover, today they are too burdensome for the economies of a number of countries, especially Europe. And today the European Union is abandoning political sanctions. For example, the PACE lifted the Russian Federation's exclusion from the organization.

A number of European countries are actively using direct agreements with the Russian Federation, despite the economic and political sanctions imposed on the European Union against Russia. For example, Germany continues its economic cooperation with Russia in the construction of the «Nord Stream 2» pipeline.

Thus, bilateral agreements today are a very effective means of reconciling the interests of states.

The purpose of the article is to build a game-theoretic model for analyzing the possibilities of bilateral agreements between Ukraine and Russia regarding the regions of Donetsk and Lugansk regions or Crimea that are not under control of Ukraine.

Theoretical and game model. Let's consider the situation for Ukraine and Russia regarding Donetsk and Lugansk regions or Crimea as a dynamic game.

The first step has to do the Ukraine because the current situation satisfies only Russia.

Ukraine may offer negotiations regarding Crimea and «Donetsk and Lugansk People's Republics» in a single package or separate on each of them.

The further presentation will be focused on negotiations on the Crimean region since negotiations on the Donetsk and Lugansk regions are already taking place. However, they are not bilateral, but multilateral, within the Minsk Agreements and the so-called «Norman Format» as part of Ukraine, Russia, France and Germany. A more detailed discussion will be made below.

We will not consider the format of negotiations or their structure. We will build a game-theoretic model to identify the strategy for which the interests of Ukraine and the Russian Federation will be agreed.

So it has been over 5 years since Crimea was annexed by Russia. During this time, a real program for the return of Crimea, apart from the hope of sanctions from foreign states, was not offered by the state authorities and the administration of Ukraine. At the same time the negative situations around Crimea that arise due to the necessity of functioning of the state of Ukraine (economic activity, relocation of military units, etc.) are only accumulating. The lack of mechanisms to resolve them not only leads to significant economic losses but also damages Ukraine's reputation and, in some cases, increases political tensions in Europe.

It should also be noted that no functionary of state authorities and government of Russia for many years in the future will even raise the issue of «return of the Crimea»: this would mean «political suicide» for him. And it is not only because of *V*. Putin or *D*. Medvedev. Their "successors" will also adhere to the current policy of belonging to the Crimea: public opinion «will not forgive» even statements about «return».

In general, there are three possible strategies for Ukraine (they will be referred

to as *U*).

Strategy U_1. To continue its present activities without offering any negotiations or steps on Crimea.

Strategy U_2. Propose approaches to resolving the conflict over Crimea and the Donetsk and Lugansk People's Republics by a single package.

Strategy U_3. To propose approaches to resolving conflict issues between Ukraine and Russia only in relation to Crimea.

There are such strategies for Russia (they will be referred to as *R*).

In response to Ukraine's strategy, U_1

Strategy R_1. To continue its present activities without offering any negotiations or steps on Crimea.

Strategy R_2. To propose their approaches to resolving conflict issues between Ukraine and Russia only in relation to Crimea.

We do not even consider the strategy of offering a «single package» for Russia, as Russia denies its involvement in the situation in the Donetsk and Lugansk regions.

In response to Ukraine's U_2 strategy.

Strategy R_1. Russia's refusal to negotiate.

Strategy R_2. Agreement by a single package "Crimea + Donetsk and Lugansk People's Republics".

Strategy R_3. Offer your own version of the agreement to resolve conflict issues between Ukraine and Russia only in Crimea.

In response to Ukraine's strategy, U_3.

Strategy R_1. Refusal of negotiations.

Strategy R_2. Agreement by a single package "Crimea + Donetsk and Lugansk People's Republics".

Strategy R_3. Consent to the Crimea agreement and negotiation to obtain a result.

Thus, the dynamic game can be represented by fig. 1.

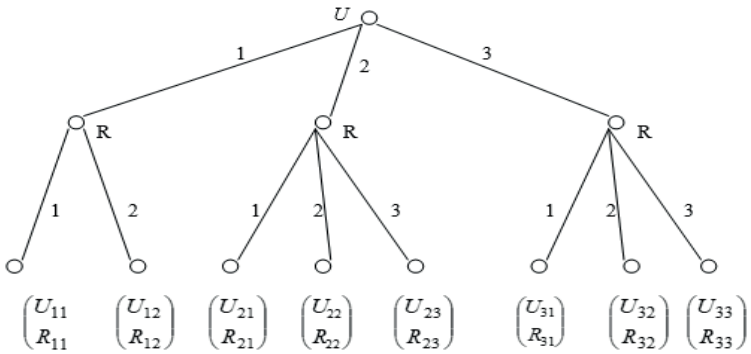

Fig.1. Dynamic game of Ukraine and Russia in the situation regarding Crimea, Donetsk and Lugansk People's Republics

The winnings of Ukraine and Russia are presented by the first letter of t he country. The indices determine the scenario selected by Ukraine (first index) and the scenario selected by Russia in response (second index).

Let's find the Nash equilibrium for this dynamic game [3], that is, choosing the strategies that are best for both parties in the sense that when one side chooses them, it is not advantageous for the other side to choose the other.

We find it by the inverse induction method [3], that is, from the end of the game tree to its apex. Thus, Russia's gains should be compared with each other, but only those that belong to one vertex. In our case, only those that have the same first index.

Comparing Russia's R_{11} and R_{12}'s gains, we can conclude that Russia can win if it first proposes its project to resolve conflicts over Crimea (of course, those who are primarily interested in it). That is, the R_{12} strategy will be a win for her. This will allow her to gain a reputation as a country trying to resolve the conflict. In doing so, Ukraine will suffer reputational losses, looking like a country that is exacerbating tensions in Europe.

Let's compare the gains of Russia R_{21}, R_{22} and R_{23}. Russia will have the greatest benefit when it proposes to separate negotiations on Crimea (this will be a strategy of R_{23}). Russia's motivation may be, for example, that Crimea, unlike the Donetsk and Lugansk People's Republics, is part of the territorial composition of Russia. An additional goodwill will also be that Russia, unlike Ukraine, will show its readiness to negotiate and, as a result, show its willingness to work to reduce tensions in Europe.

Consider the winnings of R_{31}, R_{32} and R_{33}. Similar to the previous review, the R_{33} strategy will be a winning for Russia.

Thus, Ukraine will choose the largest gain among the U_{12}, U_{23} and U_{33} as shown in fig. 2.

Comparing the winnings with each other, we get the U33 winnings as the best in Ukraine.

Thus, the equilibrium of Nash in this game, which will suit both sides, will be such: for Ukraine it is most advantageous to offer Russia an agreement of resolving the situation with the Crimea, and then it will remain most advantageous for Russia to agree to such negotiations.

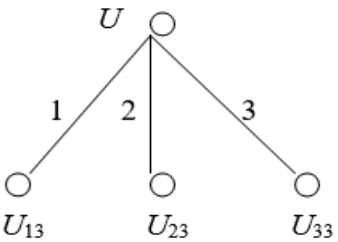

Fig. 2. Ukraine's winnings after the choice made by Russia

It should be emphasized that the game-theoretic model shows that the country which is the first to propose to sign the agreement of the Crimea will have significant advantages over the other.

Conditions for the implementation of the game-theoretic model. In Ukraine for over 5 years, public opinion has emerged that negotiations with Russia are unacceptable. Like, until Russia «returns» Crimea to Ukraine, there is nothing to talk about the Crimean topic with it. For 5 years, the media and representatives of public authorities and government have reiterated that foreign sanctions are enough for Russia to return Crimea. By contrast, the Minsk Agreement was presented as an alternative by the Ukrainian government and authorities.

So it is advisable in Ukraine to organize a wide discussion with the public about possible steps by Ukraine in relation to the problem of Crimea and the non-controlled regions of Donetsk and Lugansk regions. At the same time it is necessary to rely solely on your own, Ukrainian capabilities. A wide range of experts and analysts need to be involved in spreading the public opinion that Ukraine needs. It should be emphasized that these arrangements are temporary. And that they will continue until the conditions change both international and domestic in Ukraine and Russia. First of all, Ukraine must raise the standard of living of its population to a level higher than Russia has. This is the main condition for the return of both Crimea and uncontrolled territories in Donetsk and Lugansk regions.

Adequate public opinion activities can be effectively implemented within e-democracy and e-governance.

It is also important to inform the Russian society about Ukraine's initiatives regarding the future of Crimea and the Donetsk and Lugansk regions. Ukraine's approach can be favorably received by Russian society, and this is an important factor that the Russian authorities must always take into account.

It should be noted that the international community will very much take steps in this direction as they can reduce the level of tension in Europe. These steps will also contribute to the economic development of not only Ukraine and Russia, but also EU countries.

Multilateral or bilateral agreements. Neither country is planning negotiations on a bilateral agreement between Ukraine and Russia today. There are no proposals for this yet. However, as the results show, bilateral agreements can be a powerful mechanism for reducing tensions between Ukraine and Russia. And the existence of an agreement between the countries will create the conditions for the end of the active phase of the hybrid war on the part of Russia.

The situation of the temporarily occupied regions of Donetsk and Lugansk regions, at first glance, has formal differences with the situation with Crimea. Negotiations have been underway for several years in the «Norman format», with the participation of Ukraine, Russia, France and Germany. The highest officials of these countries take part in them. During this time, the so-called «Minsk agreements» were formed to resolve the situation in Donetsk and Lugansk regions.

The history of the Minsk Agreements is detailed in [4]. The text of the Protocol of the Presidents of Ukraine and Russia is given in [5]. The text of the Declaration of the Presidents of Ukraine, Russia, France and the Chancellor of Germany is given in [6]. The text of the Complex of measures for the implementation of the Minsk Agreements is given in [7]. The Steinmeier formula for the implementation of the Minsk Agreements is given in [8].

It is interesting that the Minsk agreements are not signed by the leaders of the Norman countries. They were signed by representatives of these countries. The «presidents» of Donetsk and Lugansk People's Republics also signed these agreements.

The Minsk Agreements do not provide any guarantees or mechanisms for their implementation. At the time of their signing, the Government of Ukraine informed citizens that France, Germany and other EU countries and structures would be the guarantors. However, neither in the Minsk Agreements nor in certain international agreements is this fixed.

Moreover, sanctions against Russia are not formally attached to the implementation of the Minsk Agreements. They are governed by other documents and are the «goodwill» of the countries that introduce them. The magnitude and duration of these sanctions are also not regulated. For example, EU sanctions have duration of six months and have to be continued.

Today, Ukraine has agreed to implement the Minsk Agreements. In doing so, it provided an opportunity for foreign countries to waive sanctions (or substantially mitigate them) in the event of promotion of the Minsk Agreements. Actually, this is a risk for Ukraine, and it will increase over time.

Unfortunately almost immediately after their signing, the partners of Ukraine on the Minsk Agreements began to refuse support from Ukraine. For example, Germany actively cooperated with Russia on the construction of the «Nord Stream 2» gas pipeline. Such cooperation was carried out on the basis of bilateral agreement which was not broken during the sanctions.

Sanctions against Russia are economically burdensome for the EU and developed countries. An increasing number of these countries are seeking an opportunity to waive these sanctions.

Thus, multilateral negotiations and agreements on the situation with Crimea and Donetsk and Lugansk regions have proved ineffective. At the same time, bilateral agreements continued to be effectively enforced, even during sanctions.

Therefore, bilateral negotiations between Ukraine and Russia on the normalization of the situation in the regions of Donetsk, Lugansk and Crimea may be a more effective step compared to multilateral agreements between countries, some of which are interested in continuing and developing cooperation with Russia.

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CYBERSECURITY AS A CONDITION FOR SUSTAINABLE FUNCTIONING OF THE INFORMATION SOCIETY

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The rapid growth of information and communication technologies at the current stage of the civilized world development acts as a great benefit for improving efficiency of activity of subjects at all levels – the state, enterprises, individuals. However, the processes of computerization, increasing accessibility to global information networks create a favorable climate for initiation of criminal activity.

Cybercrime has become one of the major problems in the development of information societies in modern global information space. According to Allianz and WEF information cyber risks rank second place among all business threats and are among the top ten threats to humanity. Every day nearly 400 companies all over the world bear losses caused by criminal acts; according to the FBI's Internet Crime Complaint Center within the last five years the worldwide losses caused by cyber criminals have made up $ 12 trillion [1].

Three countries: the USA, China and Germany account for the largest number of cybercrimes from year to year. However, the countries such as Russia, North Korea, Iran and, oddly enough, China are considered to be the largest cybercrime centers. The experts concluded that China owns the first place in cyber espionage, and the rest of above mentioned countries show a primary interest in the activities of financial institutions. In addition, the cybercrime wave is rising from the countries like Brazil, India and Vietnam.

In Ukraine an alarming situation of increased cybercrimes is forming – within the last five years their number has more than twice increased; the crime reached its pick in 2017-1795 criminal cases were opened, in 2018-1023, only in the first half of 2019-1005 [2].

The attention to various aspects of cybersecurity has been paid by many scientists: V. Y. Ahibalov, N. M. Akhtyrska, Y. M. Bartashevska, P. D. Bilenchuk, V. M. Butuzov, A. A. Vasyliev, V. D. Havlovskyi, M. S. Hadzhiiev, V. O. Holubiev, D. V. Dubov, E. V. Zozulia, M. A. Zuban, O. L. Kobylianskyi, A. V. Kofanov, M. I. Malii, P. I. Pushkarenko, H. V. Semenov, T. L. Tropina. At the same time still there is a necessity in further investigation of this problem to determine the conditions for ensuring sustainable development of the information society and the digital communication environment.

For a long time the governments of developed countries have been focusing on cybercrime protection issues and it is reflected in a number of regulatory documents, the development of a cybersecurity strategy for realization of which a number of structures have been created, the experience of their functioning is the ground for

creating the cybersecurity concept by the countries that are only beginners on this way (table 1).

Table 1

Features of implementation of cybersecurity strategies by European countries

№	Country name	Authorized structures for implementation of cybersecurity measures
1	Austria	1.National Computer Emergency Response Team CERT.at. 2.Public and Private Partnership Initiatives: - Centre for Secure Information Technology Austria/A-SIT; – Kuratorium Sicheres Österreich. 3. A joint initiative of CERT.at and the Austrian Government – Austrian Trust Circles. 4. “Hotline” stopline.at.
2	France	1. The National Cyber Security Agency ANSSI. 2. Emergency Computer Response Team – CERT-FR. 3. “Hotline” pointdecontact.net.
3	Netherlands	1. National Cyber Security Center - a national CERT with additional authorities. 2. ISACs analytical and information centers - responsible for security of critical information infrastructure by sectors. 3. “Hotline” meldpunt-kinderporno.nl.
4	Spain	1. National Center for Critical Infrastructure Protection CNPIC. 2. INTECO-CERT and CCN-CERT. 3. Pre-registered “Hotline” (www.alia2.org/alerta2/english.php).
5	United Kingdom	1. National Infrastructure Protection Center. 2. CERT-UK Critical Infrastructure Protection. 3. GovCertUK on cooperation with state institutions. 4. Office of Cyber Security and Information Assurance). 5. “Hotline” Internet Watch Foundation
6	Estonia	1. CERT Estonia. 2. “Hotline” vihjeliin.ee.

Source: compiled by authors based on [3]

For many countries the Cybercrime Convention of the European Council (Budapest Convention) from 23.11.2001 [4] is the basis for the development of a cybersecurity strategy. The Convention was ratified not only by the EU member states – 55 countries in total, including the United States, Canada, Japan, Mexico, Australia. Russia and China are strongly opposed to signing the Convention.

Ukraine was one of the first signatories to this document, but ratification of the Convention was carried out only on March 10, 2006 and not all its provisions have been reflected in the national legislation by now, while its full implementation requires significant changes in the Code of Criminal Procedure.

In 2016, the European Parliament adopted the first part of a single for EU cybersecurity legislation – the NIS Directive. It is clear that for non-EU Ukraine

this document is not mandatory, but some of its provisions, though not all of them, have been used.

In Ukraine the Cyber Security Strategy was developed in accordance with the National Security Strategy of Ukraine from 2015 and was put into effect on 27.01.2016 [5]. To specific features of this Strategy shall be referred its focus on the European approach to provision of cybersecurity, which assumes shared responsibility of all major stakeholders. It is important to take into account the EU and NATO standards, separation from priority protection of the national segment of the Internet, that is a key position in the cybersecurity field of countries such as Russia and China.

An important milestone in the development of the national cybersecurity system to counteract the phenomena being not only national but also a global nature - military cyber threats, cyber espionage, cyber terrorism, cybercrime, became the Law of Ukraine «On Basic Principles of Ensuring Cyber Security of Ukraine" that was put in effect dated 09.05.2018 [6].

This legislative act regulates relations in the sphere of the Ukrainian cyberspace protection, defined the foundations of legal and organizational support for protection of national interests of Ukraine in cyberspace, first established a significant number of concepts in the field of cybersecurity, which have become new for the Ukrainian legal field. It also specifies the authorities and responsibilities of the relevant structures, which are key ones in terms of counteracting the challenges and threats to information security and defines the conditions for coordinating their activities.

Further improvement of the legislative regulation in the field of cybersecurity experts is associated with the adoption of the Law of Ukraine «On Critical Infrastructure and its Protection», which shall eliminate the current differences referring to classification of infrastructure objects as «critical» or «non-critical». Legal conditions must be created to prevent any corruptive action to resolve the issue of including definite objects in the list of «critical infrastructure» and to establish an appropriate supervisory and control mechanism based on appropriate requirements for the level of protection and sustainability.

It is urgent to adopt a new Cybersecurity Strategy for the period 2020-2025 and its development has already been announced; it is obvious that the process of its formation shall be based on an objective assessment of provisions of the previous strategy and the degree of real implementation of the annual plans of measures on implementation of the Cybersecurity Strategy of Ukraine, which were developed within 2016-2018 by the State Service of Special Communication and Information Security of Ukraine (SSSCIP) and approved by the Cabinet of Ministers of Ukraine [7-9].

As for the plan of measures on implementation of the Cybersecurity Strategy for 2019, despite the fact that the suggestions regarding this plan were submitted by the ministries, other central executive bodies, the Security Service of Ukraine, the Foreign Intelligence Service of Ukraine and the National Bank before September 1, 2018, the State Service of Special Communication and Information Security of

Ukraine started the process of its approval only at the end of the tenth month of 2019.

Analyzing the positive shifts that occurred over the last period in the domestic regulatory field referring to solution of cybersecurity issues it remains necessary to take the following important steps that will help to meet the current requirements of national interests and security of Ukraine in cyberspace:

1. Bring the legislative framework to compliance with international cybersecurity standards. First of all, it concerns the adoption of a more comprehensive cybersecurity law, which will take into account existing best practices of other countries, and in the development of which cyber security practitioners and professionals shall be involved; the Law that is current today can be considered as a roadmap for establishing a cybersecurity regulatory framework.

2. Harmonize the terminology in various national cybersecurity legislation acts, as well as with the applicable terms in international practices.

3. Specify the authority of institutions responsible for cybersecurity by evaluation of real efficiency of their activities and develop a rational mechanism of their interaction in the case of threats in cyberspace.

4. Develop a Regulation and possibly a Law on Public and Private Partnership taking into account existing differences in understanding between the state and the private sector of the essence of this concept and the ways of its implementation.

5. Introduce a system of objective assessment of appropriateness of financing national cybersecurity projects, some of which have nowadays become a chronic means of diversion public funds and they are in fact pseudo-effective.

6. Study the work experience of the EU cyber rapid response forces, which included countries such as Lithuania, Estonia, Croatia, the Netherlands, Romania, France, Spain, Poland, Finland (Belgium, Greece, Slovenia and Germany, expressed their wish to join the project as observers). Determine the possible area of application of this experience by Ukraine in the field of counteraction to cyber threats and terrorism.

It is obvious that taking into account permanent renewal of crimes in cyberspace, the issues of security and elimination of real and potential threats shall be a matter of interest not only for the state, but also for specific businesses and institutions. However, many businesses do not fully realize the potential consequences of violation of their information environment integrity and do not make relative conclusions regarding its security.

According to the data provided by company “Octava Cyber Security” even after a third of Ukraine’s economy suffered from virus Petya, only 20% of Ukrainian corporations got seriously engaged in cyber defense, about 30% of companies are only discussing cyber defense and a half of the companies have not made any significant steps to minimize potential risks [10].

If cyber-attacks are not large-scale and affect only some definite companies or institutions, in many cases they prefer not to contact the relevant authorities for conducting investigations, by what high latency of cybercrime is caused.

The factors that encourage the concealment of cybercrime may be: worsening of a company's image and, as a result, loss of trust on the customer's side; lack of transparency of financial activities and the possibility of detecting violations in this area during investigations; probability of detecting a lack of professionalism of some people responsible for cyber defense; lack of confidence in possible identification of persons who committed the crime and, in the case of a positive investigation, compensation of full volume of the damage caused.

In order to create a secure cyberenvironment it is advisable for enterprises not to use local actions focused on protection from specific threats, but apply a comprehensive approach based on organizational, moral, ethical, legal, software and technical methods of protection and counteracting of any emerging threats. Enterprises paying sufficient attention to information security issues create information security coordination centers that include technical equipment specialists, programmers, personnel responsible for preparation, input, storage and processing of information, physical equipment security specialists, user representatives.

Unfortunately, cybercrime is constantly evolving and although the majority of cybercrime in cyberspace is committed by people who do not belong to any groups, organized crime has become threatening today. As an example – as a result of Europol's activities in 2018 was revealed a criminal group consisting of several sectors, each with own «specialization»: some members of the group created malware, others – sent phishing letters addressed to bank employees, withdrew money from automatic cash terminals, bought cryptocurrency for these funds and transferred it into special crypto wallets. Forty countries were covered by the criminal acts and caused a loss of 1 billion Euros.

Thus, we can conclude that not only changes in the legislation are directed to ensure cybersecurity, but business representatives should be aware that preventing attacks on their own information environment by creating a reliable and constantly updated security system will not only save money (expenses on eliminatiing effects of cyberattacks are always higher than the cost of preventive measures), but, in general, reduce the risks of life activity in today's dynamic environment.

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QUALITY MANAGEMENT OF STUDENTS 'PROFESSIONAL TRAINING AND SECURITY OF THE EDUCATIONAL PROCESS OF HIGHER EDUCATION

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The level of the intellectual potential of the state is determined by the quality of higher education in the country and becomes the most important factor not only of economic and social development, but also a factor of political independence of the state, the basis of its development.

The quality of higher education has traditionally been associated with the didactic content and the form of organization of the learning process, which is

based on the qualifications and experience of teachers. However, the rapid nature of changes, that are happening in the world, particularly in the education domain and employment markets, forces educators to rethink established views. In this regard, scientific-pedagogics workers should adapt the methodology and teaching material to the new conditions. New perceptions about the quality of education will have to do not with the «fragmentary adaptation» of higher education institutions to new conditions, programs or reforms, but with the need for a deep restructuring of the foundations of students' vocational training, that is, to change the content and organization of the educational process.

The concept of quality of education is based on the modern concept of quality management of products and services.

Note that the concept of «quality» for education is more complex than for traditional products or services, which is related to the structure of consumption of educational services, consumers of the results of the educational process are advocated by students themselves, and their families, businesses, which they will work for and, ultimately, society and the state as a whole, that will use their potential effectively (or ineffectively).

Let's look at recent research and publications on this issue.

The basic principles of the management of quality of education were considered in the workds of such domestic and foreign scientists as: V. S. Zahorskyi [16], A. Papantium and M. Darr [11], O. V. Perchuk [12], I. V. Raspotniuk [13], D. Khouston [6], P. S. Yaremenko [15] and others.

The application of the quality system in higher education on the basis of the ISO 9001 standard was considered in the works of domestic and foreign scientists: B. Ye. Bodnar and O. O. Matusevych [1], M. Dzh. Manatos, S. S. Sarriko and M. Dzh. Roza [8] and others.

The presented works only describe general requirements to the quality, the system of control of higher education and some aspects of management of the organization of the educational process, which needs further study of this problem.

The peculiarities of financial-economic security of educational institutions were studied in their works: V. V. Hirniak, N. I. Kozmiuk and O. V. Lukianska [5], I. S. Stetsiv [14], V. V. Kovrehin [7].

However, further studying of the measures of the safety of the higher education institution's educational process are warranted.

The purpose of the study is to develop a model for managing the quality of students' vocational training, and to characterize measures to improve the safety of the educational process in higher education institutions.

The problem of the quality of education in Ukraine has not had such important social, economic and technical significance yet as it is today. The highlighting of this problem is due to the objective factors: firstly, the level of development of the country and its economic competitiveness depends on the quality of human resources ; secondly, the quality of education is becoming increasingly important in ensuring

the competitiveness of high school graduates in the employment market [16].

The Law of Ukraine «About Higher Education» [9] provides an interpretation of the quality of higher education and the quality of educational activity.

The quality of higher education is a set of qualities of a person with higher education, which reflects his professional competence, value orientation, social orientation and determines the ability to satisfy both personal spiritual and material needs, as well as the needs of society [9].

The quality of educational activity – a set of characteristics of the higher education system and its components, which determines its ability to meet the identified and anticipated needs of an individual or (and) society [9].

If to take into consideration the mentioned above, the quality of education can be defined as: «a set of properties, content of studying and characteristics of the educational process, which make it possible to meet the existing or potential needs for knowledge and skills of individuals, enterprises and organizations, society and state.»

The quality management of the educational process in the professional training of students (in all specialties) should be based on the quality management model of the international standard ISO 9001: 2015 «Quality Management System» [3], as well as pedagogy of high school.

The system is based on higher education standards, curricula and studying plans – as a set of content requirements and educational outcomes for each higher education level within each specialty.

The following approaches can be used in assessing the professional skills of students that are offered by: V. M. Onyschenko, M. O. Yancheva, O.O. Shevchenko [10].

The main purpose of the functioning of the quality management system of a higher education institution should be:

1. High level support and constant improvement of the system of quality assurance of educational activity and quality of higher education;

2. The most complete satisfaction of the requirements and expectations of service providers and other stakeholders in the field of education and research;

3. Fulfillment of the requirements of the current legislation of Ukraine, decisions and orders of the state authorities concerning the sphere of activity of the institution of higher education.

According to the international standard ISO 9001: 2015 [3], the quality system means: the set of organizational structure, methods, processes and resources required for quality management.

In order to solve the problems of implementing the policy in the field of quality of education in higher education institutions it is advisable to create an independent from the rector (director) department «Quality Management of Specialists» («QMS»).

The tasks of the «QMS» department should be:

- quality management of the educational process and continuous improvement

of the quality management system of training of future specialists;

- collecting information and creating an automated database of student performance indicators;

- organizing and conducting socio-psychological studies of professional reliability, providing psychological support to teachers and students;

- systematic verification of student learning results in all specialties;

- introduction of innovative teaching methods, best practices;

- cooperation with other institutions, practice bases;

- preparation for certification ISO 9000 series.

Based on the analysis of works [1; 3; 4; 6; 7; 9; 11] we build a model of quality management education in universities, which is based on the quality management system of international standard ISO 9001: 2015 «Quality Management System. Requirements» and elements of pedagogy of high school (fig. 1).

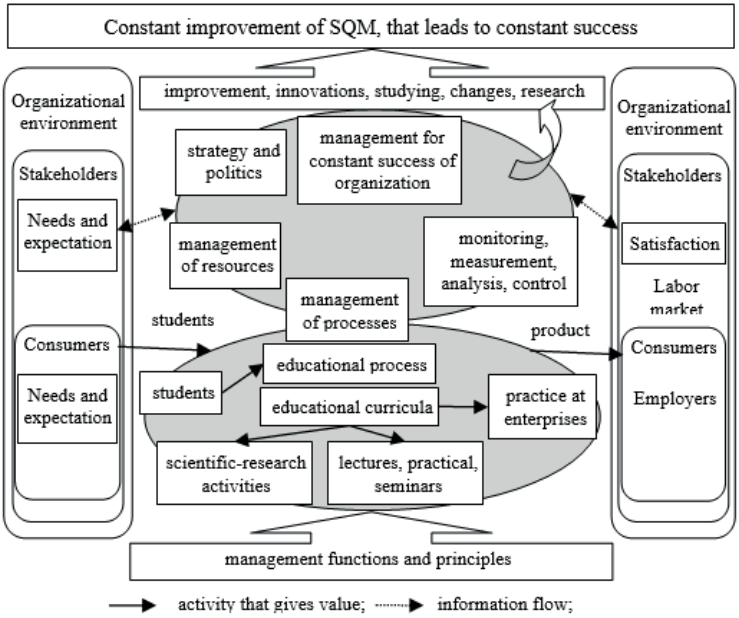

Fig. 1. Model of quality management system in Higher Educational Establishments

Despite the efforts to reform it on the European models, the national educational system basically looks only European, but not the essence. One of the major reasons for this is the unsatisfactory state of the education economy and its security [5, p.1038].

Researchers V. V. Hirniak, N. I. Kozmiuk and O. V. Lukianska point out such security threats to higher educational institutions:

- inefficient management of the educational institution, low level of educational

process;

- reducing the number of students by decreasing the level of attractiveness of the educational institution;
- ineffective work with potential and actual sponsors;
- insecurity of trade secrets;
- reducing the quality level of the teaching staff;
- corruption among the part of teaching staff, etc. [5, p. 1041].

The scientist I. S. Stetsiv [14] identifies the following components of a university's financial and economic security:

- financial component – is considered to be the leading and decisive, because in market conditions, finance is the basis of any economic system. The financial component is the relationship in the field of finance that arises in the course of financial and economic activities of higher educational institutions;
- intellectual and personnel components: cover interrelated and at the same time independent directions of activity of higher educational establishments – technical component: availability of auditoriums in accordance with established norms, provision of educational process with necessary equipment, which corresponds to modern world analogues (equipping computer, laboratory auditoriums with handy materials for conducting classes);
- technological component: providing of classes with observance of requirements for teaching of disciplines (individual plans of teachers, training programs, work programs, calendar plans, etc.);
- regulatory-legal component: provision of materials of the current legislation of Ukraine, on the one hand, as a subject of the private sector of the economy, on the other – as an educational institution regulating the activities of universities;
- information component: use of information of two environments – internal and external [14].

The system of economic security of a higher education institution, using a certain set of tools, must provide the necessary accounting and internal control of the formation and movement of financial flows at all stages of the implementation of educational activities [7, p. 83].

In order to ensure the individual and collective security of the higher education institution, V.V. Kovrehin [7] emphasizes that the following measures are necessary:

- familiarization with job descriptions, which clearly define the rights and duties of staff and make the organization and order in the nature of its activities;
- physical protection of employees, property through the use of access control in the building, technical means of observation and other means;
- raising the educational level of employees, periodic professional certification in order to assess their competence;
- promoting a healthy lifestyle;
- carrying out fire-fighting and anti-terrorist

actions, improving the system of compliance with labor protection [7, p. 83].

The practical significance of the results of the research is that due to the introduction of quality management system in higher education institutions it is possible to significantly improve the educational activities and professional training of students; high quality of educational services is achieved.

The economic security system in general should provide the necessary accounting and internal control of the formation and movement of financial flows at all stages of the implementation of educational activities [7, p. 83].

One of the effective methods that will allow the higher education institution to stand in the fierce competition in the higher education services market is to develop and implement effective quality management systems in accordance with the requirements of the international standard ISO 9001: 2015 «Quality Management System. Requirements».

The system of economic security of an educational institution should ensure the accounting and internal control of the formation and movement of financial and information flows.

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PECULIARITIES OF COMMUNICATION PROCESSES IN MODERN ORGANIZATIONS

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The efficiency level of the organization production and business operation depends on the management system, which perfection is determined by a number of factors, such as the degree of the communication system development. The effectiveness of communications depends on the level of technical support of information exchange, quality of the information and human factors.

Communication has become one of the most important components in the company management. Poorly established communication impedes the information exchange between the departments that need it for making any decision, as a result the misunderstandings happen. If the company is not able to respond promptly to the internal and external changes, it can cause the reduction of management quality.

Communication is a pervasive and complex process that relies on the information exchange between the organization employees, i. e. it is the communication through words, letters, symbols, gestures, and it is the way to express the employee's attitude to the knowledge and abilities of each other and to achieve trust and perception of views and beliefs of each other [1, p. 195].

The information exchange accompanies all management actions, provides the formation and implementation of management functions and methods, decisions making, choice and usage of management styles and models. Managers at different levels spend a lot of their time on communications, sharing information to execute their role in interpersonal relationships and company management.

Establishing of proper communication evokes many questions, such as the good will of partners to establish communication, identification and elimination of possible obstacles, including the choice of communication methods, the right combination of verbal, visual and written forms of communication, etc. On practice, the communication effectiveness is reducing if the message is formed incorrectly, mistranslated or fuzzy interpreted, or if there are the loss of information in the process of its transfer or storage, insufficient time for adaptation, premature evaluation, fear, lack of mapping, etc. [2, p. 7].

Peculiarities of communication process in modern management conditions are

the usage of information systems for the information transfer, storage and processing.

To build-up the communication system on the information technologies basis is based on the combination of all management functions of both executive personnel and individual workplaces. The modern manager needs to process the information as prompt as possible for making quick and thorough decisions, which determines the competitiveness of the company in the market.

Therefore, one of the main criteria for the communication system effectiveness is the speed of information signals processing. To reduce the time for information processing, a wide range of modern technical means is used, starting with computer technology, computer networks and finishing with complex software such as neural networks and intelligent systems. It should be emphasized that the condition of information technology development in most organizations is inadequate. In particular, the quantity and structure of computers, network equipment, hardware and software do not meet current needs [3, p. 168].

Scientists point out that full exchange of information should be done in four stages, which form a complete communication cycle [4, p. 24-31].

The first stage of the communication cycle involves the information entry into the management system, i.e. collection and processing of the necessary information, which should be relevant to the performance of general management functions. For example, communication processes, aimed at transferring input information to the organization planning units from other units or from the external environment, are implemented on the first stage of production planning.

The external information flows have different intense in the context of communications directions and separate elements of the system, each of them has unique characteristics, which are suggested to be evaluated by means of special and integral indicators. Communication must be ensured by input resources, technologies and interactions of internal elements.

The received information should be evaluated by certain criteria. The main criteria are: accuracy, sufficiency, timeliness, cost. The information, recognized as valuable, transfers to the next stage of communication.

It should be mentioned that the level of expenses on data intelligence and company information activities depends on the amount of communication elements, and researchers prove that a significant proportion of communications (approximately 33 %) are ineffective or unnecessary [5].

On the second stage of the communication cycle, the information is collected from the received data, which is available in the certain unit, with its further verification and validation. The information, that experts consider to be reliable, becomes the basis for alternative production plans creating or making appropriate management decisions.

During the production organization, departments' managers must receive information about available resources (human, financial, material, information asset) and estimate their expenses or revenues. The external environment provides

regulatory information (mainly about legal restrictions on resource usage, operational and workplace safety, etc.). Receiving the necessary data, department managers select the top-priority information and check it. In fact, the only evaluation criterion is compliance with the approved plan.

It is advisable to create several variants of each plan (at least two of them – «optimistic» and «pessimistic»). The evaluation of plans should be based on certain internal and external factors [6, p.19-20]. Internal factors include staff competence, funding amount, automation degree of computers, time, management experience, and so on. External factors include external pressure of stakeholders such as partners and competitors, suppliers and consumers, etc.

The third stage accompanies by the adoption of appropriate management decisions, as well as creating of certain types of plans. It can be production plan, sales plan, marketing, technical training, budget, etc. In any case, the plan must be submitted to the relevant company departments for its implementation or its possible primary coordination, improvement or adaptation.

The fourth stage creates the subject of management communication, which transfers the decision to the employees, i.e. transfers the management information to the executive subsystem. Different factors need to be considered in order to communicate effectively, i.e. to convey some messages in the form of guidelines, instructions, orders, reports, etc. These factors are words selection, when messages creating, mood, well-being, needs of addressees, etc. That is why the problem of the communication effectiveness improvement has various aspects: formal-logical, value-based, semantic (refers to the meaning of the words), socio-psychological, text-logical, organizational, and technical ones [7, p. 95].

Dividing communication into cycles within specific management functions helps to single out the unproductive, redundant, and duplicative communications and it is reasonable to eliminate them or level their negative impact.

Analysis of communications, that accompany the implementation of specific management functions, is the basis for evaluating the effectiveness of certain communications, their cycles, and the communication system of the organization.

The above-mentioned stages of the communication process help us to distinguish those peculiarities, which are typical for the modern organizations.

These peculiarities are the following: [8, p. 38-41].

- to distinguish the specific management functions that create the management process;
- to distinguish the elementary communications that accompany the implementation of specific management functions;
- to set the goals of communication evaluation;
- to create the system of communication evaluation indicators;
- to set the standards that should be met by the specified indicators;
- to distinguish the indicators of the organization activity efficient by certain business processes or management functions;

- to link the communication evaluation with the key indicators of the company activity;

- to establish the effectiveness criteria for the company communications system;

- to evaluate the effectiveness of the communication system.

Above-mentioned peculiarities will allow managers of all levels to choose priority areas of communication development, such as: upgrading of the communications technical infrastructure, improving the social environment of communications, making the information support better, and optimizing the implementation of management functions.

Summarizing the above-written information, it is necessary to mention that all possible resources and channels must be used to build up the effective communication system in the company. HR Department should keep employees timely informed about all news, mission, strategy and company goals. Effective communication must be characterized by clarity, simplicity, reliability, that in general will facilitate their adequate understanding.

Modern managers often neglect to establish effective communication flows within the company due to the tough schedule, their own negative attitude to communication interaction, and it affects the image of the leader and the process of management negatively. Some foreign top-managers consider the communication interaction to be one of the most complexes in the company, and inefficient communication is a major obstacle to the company success [9, p. 36-40].

It is necessary to understand that the chosen way for communications will influence employees' views, motivation, understanding and support of management and its policies. It can also help to reduce the employees' resistance to any changes. The quantity of conflicts within the company depends on the quality, completeness and reliability of the information [10, p. 199-205].

The effective functioning of the company communication system is not possible without proper management.

It is necessary to define clearly needs of information for each structural department and each workplace in order to improve communication in the company management process and to regulate information flows according to the tasks that should be solved. It is highly important to pay attention to the developing of the interaction between managers and subordinates, organizing of the effective feedback system, implementing of the system for suggestions collection, transferring of information messages from the company management to subordinates and using of modern information technologies. Top-level managers should constantly provide more structural company management activities, improve planning of organizational development: meetings, events, meetings with subordinates, general managers of other companies.

It should be noted that the coordinated interaction between information flows and communication processes contributes to the creating of effective employees' motivation, which aim is to create stable, consciously disciplined

and competitive teams.

Knowledge and ability to create a proper system of information receiving and usage of all communication methods helps the manager to get closer to the solution of one of the main management tasks – to get profit.

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STAFF DEVELOPMENT AS AN ELEMENT OF COMPANY'S SOCIAL SECURITY

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Today the issue of national security is a priority for the state. There are four main spheres of public life: political, economic, social, and spiritual-moral (values), and respectively, there are four subunits of national security: political security, economic security, social security, and spiritual security. The first two are in the focus of the state's concern, but there are significant gaps in providing and strengthening the latter two.

In the article, we will focus on providing social security at the organization/ company level. Using the data in table 1, we will analyze some of the approaches to the concept of social security definition.

Table 1

Approaches to intepreting the essence of the concept of social security in the Ukrainian realities

Social security is ...	Source
guaranteed legal and institutional protection of the vital social interests of the individual and society from internal and external threats	Declaration of State Sovereignty of Ukraine [1]
guarantee of legal and institutional protection of vital social interests of the person, society and the state from external and internal threats	I. Gnibidenko, A. Kolot, O. Novikov [2, c. 17]
one of the most important internal components of national security, characterizing the degree of social stability of society	V. Andrushchenko [3, c. 62]
conditions in society that provide normal reproduction of the society as a demographic population, people, and nation.	A. Prijatelchuk, O. Ishchenko [4, c. 24]

The analysis of the sources shows that the concept of social security has not been sufficiently elucidated in the scientific literature and did not find its proper development in the system of social policy and national security of Ukraine.

We support the conception that social security comprises the comfortable life conditions of humans and society, characterized by an advanced social system of ensuring the proper conditions for the human activity, social protection from the influence of social risks.

The provision of social security at the level of the organization is realized via its social policy. We assume that the social activity of an enterprise creates the basis for the development of the socially-oriented economy of Ukraine as a whole. Thus, the strategic course of the state depends on the the social policy effectiveness of every individual economic entity [5, p. 199].

The main goal of the enterprise's social policy is to actualize the concept of worthy work and improve the quality of working life [6, p. 240].

Areas covered by the social policy of the organization: staff development; culture and staff recreation opportunities; system of material and moral motivation; safety of working conditions; health care of personnel; work with young people; pension insurance; protection and provision of working conditions for workers with disabilities and special needs; providing services of various kinds for personnel (preferential loans, rehabilitation of children, etc.); social responsibility of the organization (not only to the employees but also to society).

We will focus on staff development in more detail. After all, it is this aspect that ensures the competitiveness of the staff of the organization, and therefore its competitive advantage in the market. Currently, this component of social policy in most organizations, especially the agricultural sector, lacks sufficient attention, though an effective staff development strategy is the key to future success.

Staff development policy should be a logical continuation of the organization's development strategy. Only in this case, it will be an integral part of it, but not a separate activity. Furthermore, there are significant differences in management development and staff development policies. After all, managers are «versatile soldiers», and they have to develop permanently in three dimensions: managerial, functional and productive sectors. It is not enough to be aware of the management processes only, it is necessary to understand the production processes as well.

The emphasis should be laid on the competencies and skills when developing a management development program. The World Economic Forum in Davos in 2016 identified the top skills needed for a successful career in 2020: complex problem solving, critical thinking, creativity, people management, co-ordinating with others, emotional intelligence, judgment and decision making, service orientation, negotiation, cognitive flexibility [7]. It is strategically important to take into account not only the tendencies of the individual company's development but also the environmental requirements since it is an open system.

Quick searching, processing, and analyzing large amounts of information is the competence needed by all categories of the staff. It is not a problem to find almost any information with modern facilities, but where to search for it, and how to differentiate what you need is a key skill of our time.

Managers should pay much attention to the development of the skills of flexibility, adaptability, the ability to apply constantly new knowledge and tools, a spirit of inquiry, communicative competence in their staff members (and in themselves). Every educated and successful person knows that to be successful, you ought to be engaged in self-education: to read, to be well-informed, to seek for novelties.

Table2

Differences in the vital values and features of generations

1943 – 1963 The Baby Boomers	1963 – 1983 GenX	1983 – 2003 Gen Y(Millennials)	2003 – 2023 Gen Z
The number of people in organization			
A small number	Majority	About 35%	Few
Features			
- team orientation; - recognition and status are important (diplomas, award letters, etc.); - high level of involvement; - they value stability; - they ask a lot of questions	- rely only on themselves; - individualists; - learn throughout life; - pragmatic; - advocate equality; - they are easy to cheat; - accustomed to authoritarianism, respect authorities; - love discipline; - committed to the company and expect the same from colleagues	- communicative; - confident; - love changes; - demand immediate reward for the result; - a pro in engineering; - not only money, but also corporate culture, social responsibility of business are important for them; - seek to work on a flexible schedule; - learn quickly; - do not recognize the authorities; - impulsive; - optimistic and progressive; - wish everything at once; - value their own time and their own space	- capable of analyzing large amounts of information; - focus only on what interests them; - respect law and order; - show respect for the position and status; - patient; - live in gadgets and the Internet; - individualists
Vital Values			
idealism, optimism, youth, health, work engagement, image, personal status and remuneration, nostalgia, family, focus on team work, diploma, medal.	work, stability, survival, moral values, lifelong learning, equality, freedom, consumption	live for today, diversity, subordination, morality, civic consciousness, achievement, naivety, creativity, life – is a holiday	loyalty, law and order, honor, patience, frugality, focus on future, security, comfort, freedom

Rules of cooperation			
- listen attentively to their proposals, conclusions, etc ; - have patience because they like to talk for a long time and do not like being interrupted; - arguments must be provided to convince them	- do not interrupt them; - communicate in a neutral tone; - ask clear and specific questions; - do not accept «no», «impossible» «can not»; - when difficult situations arise, it is important to offer them specific solutions	- the task should be set quickly and clearly; - demand clear settings where to find the information you need; - need to communicate with them kindly; - sense of humor in communication is welcomed; - they have to feel you love them and you are happy to see them; - everything must be fair; - like introduce elements of gamification into the workflow	- give them work that brings pleasure, earnings, drive and does not take much time; - use images in communications; - talk to them as adults, even on global topics; - involve them in solving social problems; - develop their interests
Ways/types of learning			
Individual, independent format, sometimes - interactive (in groups, at seminars)	interactive format (in groups, seminars), practical techniques, memorization	visual format (courses, presentations, infographics), emotional examples, asking is easier than teaching	e-learning (online courses, skype consultations), multimodal examples; researchers: understand and try yourself.
The best way to interact			
hierarchy, subordination	hierarchy, active leader	cooperation	team-based creativity

Source: author's own systematization based on [8]

And do it continuously. Managers can nurture this desire among their employees via corporate culture, their own example, and an effective motivation system. Then the rule will work - the more the employee develops himself, the stronger the desire to learn something new will become. In the conditions of total digitalization, it's getting easier and easier to find quality content on the Internet in almost every field.

Before designing a development program that takes into account the needs of the organization and the environment, it is nevertheless advisable to evaluate the staff objectively (to determine the importance of the employee and his/her weak points). Only then, individual development programs can be developed.

In our opinion, it is advisable to use generational theory in the workplace when developing social programs, staff development programs, and managing them. Americans William Strauss and Neil Howe laid the groundwork for the generational theory in 1991. They independently studied the conflict of generations, and both came to the conclusion that every 20 years new system of values is formed. The values are universal for the whole generation[9]. The data in table 2 clarify the differences in the vital values and features of generations.

Differences and features of generations must be taken into account when communicating in the formats: «employer – employee», «manager – manager», «employee – employee», «employee – manager». In this way, the staff of the organization will reinforce the business and promote its development. It is also important to initiate an open corporate culture based on respect for each other.

Therefore, the social security of the organization should spring from providing sufficient conditions for every staff member to increase his/her competitiveness via personal development. The system of personnel development can be a component of an enterprise's motivational social package. Such a system simultaneously serves as a mechanism for social protection and support from the side of an organization. After all, the acquired knowledge, skills, competencies remain forever with the employee, regardless of whether he works in the organization or not.

The effectiveness of an organization's social protection system must be monitored regularly through employee surveys to understand whether the existing system meets staff expectations. Social protection ensures the competitiveness of the organization and enables it to keep competent employees from moving to another company, thus motivating them to long-term cooperation. Moreover, ensuring the stability of the organization, the employer can not indefinitely increase salaries, but the social benefits package allows being expanded and filled with new content, stimulating an increase in productivity and optimizing costs for personnel management.

Hereupon, a competitive staff is an integral part of the company's security system. Such personnel needs constant and individualized development, strategically oriented both to the needs of the organization and the needs of the environment, including the needs of the individual. Such personnel also need effective motivation that can be achieved by combining their development, social protection, effective interaction, and the availability of an attractive motivating social package. We recommend to actualize all of the above-suggested provisions with the focus on the theory of generations. This approach provides clues to the harmonization of both professional and personal relations in the organization.

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HIGHER EDUCATION: CURRENT CHALLENGES

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The changes taking place in the economic development of countries raise the question of the role of higher education in shaping innovative and creative economies. In order to provide an answer to this question, it is necessary to examine two major aspects of the functioning of modern higher education establishments. According to the authors, these include:

- higher education is a public or private benefit [1];
- financing of higher education [2].

Let us look into these aspects in detail.

Economic thought determines public goods as being non-exclusive and non-competitive. Non-exclusivity means that such goods cannot be provided exclusively to someone and cannot be excluded from consumption. Non-competition means that the consumption of goods by some people does not reduce its consumption by others. Public goods create a large number of externalities. They are accessible to everyone alike; the marginal utility is equal, and the marginal costs for the production of the public good are zero. It is also a commodity of collective consumption. Economists

share public goods that strictly satisfy all of the above conditions as pure public goods, and other public goods that do not necessarily fully satisfy all the conditions, are treated as semi-or quasi-public goods [9]. Moreover, if the benefits of public goods are geographically limited, they are called local public goods, and public goods, the benefits of which are aimed at the whole world, are called global or international public goods. Private goods are different; they do not satisfy any of these conditions.

Some scholars argue that higher education cannot be regarded as a public good, since it does not satisfy one of the first two demands, namely, non-exclusivity and non-competitiveness [4, p. 452].

J. Stiglitz argued that knowledge is a public good since higher education and research fulfill all characteristics of the public good. For example, the theorem is non-exclusive, since as soon as it is published, no one can be excluded from reading and using it, and non-competitive, since the use of the theorem will not affect the use of it by others. It is impossible for the knowledge to become a commodity, because the seller does not lose it by selling it [7, p. 308-309]. However, such an argument is based on a mistaken perception of the nature of property. Ownership is not a thing, but rather a set of rights, a social institution. Moreover, in the modern era, it makes no sense to speak of property as a social institution, not to mention the legislative nature of the nation-states. In the modern sense, there is no property without nation-states [8, p. 402]. It is worth noting that access to many scientific treasures is limited by copyright and patent laws, a free product accessible to everyone becomes something expensive or inaccessible because of geographic location, providing rent for copyright owners or patents [16, p. 137].

Traditionally, the functions of higher education constitute the basis of life of the societies. First and foremost - higher education helps in creation, improvement, absorption and dissemination of knowledge through research and education. It has been established long ago that universities are a cradle of ideas, innovations and development, and gradually they become a reserve of knowledge. Secondly, higher education promotes the rapid industrialization of the economy by providing human resources with professional, technical and managerial skills. In the context of transforming society into knowledge society, higher education provides not only skilled workers but also workers prepared for the new knowledge that is necessary for the rapid growth of the economy. The supporters of the theories of endogenous economic growth argue that the groups of well-educated people who work together are more productive rather then if they all worked individually with less educated people. E-mail and the Internet are an example of this. Knowledge, which is free to access, has a great influence on overall productivity [11]. Thirdly, universities are institutions that help shape the person's character and morals; they embody ethical and moral values, formulate well-behaved habits and make possible changes in the views that are necessary for the socialization of individuals, encourage the modernization and general transformation of society through protection and strengthening of public

values. Fourthly, higher education also helps in the formation of a strong nation-state, promotes the development of democracy by educating active citizens who participate in the civil, political, social, cultural and economic activities of a society that understands, interprets, preserves, strengthens and promotes national, regional, international culture and history, in the context of cultural pluralism and diversity. It also has the potential to produce high-level social and political leaders. At the very end, recent studies have revealed many non-monetary benefits from higher education: longer life expectancy; reducing alcohol and tobacco consumption; less probability of obesity; more likely to be involved in prophylactic health care; better mental health; better general health; greater satisfaction with life; less crime; greater propensity to vote, volunteering, trust, and tolerance. Almost all of these provides wider social and individual benefits [15, p. 9].

However, the study of the essence of higher education showed that there is a rapid change in the paradigm of higher education. Even in economically prosperous countries, higher education systems are in a state of strong financial constraints: on the one hand, an increasing number of students, and a chronic lack of public funds on the other. In recent years, in most countries, this has led to serious consequences, caused by the reduction of the state allocation of higher educational institutions, respectively, and the cost per student [4, p. 456].

Externally, universities are increasingly approaching private governance models and public sector corporations.

Proponents of education modification movement argue that this process will transform higher education into a more flexible and efficient institute. Expansion of the market in the audience will provide better value and quality, and the university sector will become more efficient and more responsive to the needs of society, economy, students and parents. The political direction of creating a market for higher education is fundamentally ideological. However, the transformation of education into goods does not necessarily lead to the creation of a market for the sale and purchase of academic education. Indeed, it is not always clear what is being bought and sold. In this way, conditions are created for the institutions to compete for resources and funding. It is important to understand that the transformation of education into goods is equally a political, ideological process as an economic phenomenon. For example, governments often contribute to a well-defined policy through a market economy. This tendency is not a triumph of a free market economy. Indeed, it can be argued that the market-based trade in education has led not to a decrease but to increased interference and micro-management of university life. Governments are desperately mobilizing students and their parents to choose a university under pressure from the market and marketing tools. According to the logic of the market, the customer is always right, so universities are guided by the interests of students, and not the academic community.

Another important factor contributing to a radical change in thinking about the nature and role of higher education is the use of neoliberal economic policies

for stabilization, structural adjustment and globalization associated with the International Monetary Fund and the World Bank.

Many governments of exporting countries have encouraged higher education negotiations under the GATS and WTO, since trade in higher education is essentially seen as an important source of income for universities, thus reducing the obligation for governments to allocate most of their resources. For example, even some of the best universities in the world, such as Oxford and Cambridge, seen as the gold standard in higher education, are involved in business, trading and selling their degrees to students abroad [4, p. 457]. Creating the General Agreement on Trade in Services (GATS) reflects the formalization of the market processes, driven by the growing need for independence of public institutions and the procedures for international trade in services. The GATS covers all international services, including education. Within the education sector, GATS covers the following categories of education services: primary, secondary, higher, adult and «other». GATS education trade takes place in four modes: cross-border supply of services (where consumers remain within their own country); consumption abroad (where consumers cross the border); the commercial presence of a provider in another country (institutional mobility); the presence of persons in another country (staff mobility) [5, p. 9]. The GATS considers public goods as commercial goods and even global public goods as global commodities intended for trade and profit. It is equitable to fear that the nature of the benefits of general consumption will be revised and that public education will be a commodity for which GATS will provide a political and legal basis for deregulation and privatization [5, p. 58]. The transformation of education into commodities leads to a mass privatization of education that increases tuition fees and growing inequality because of the access restrictions. Moreover, as the driving forces of the national state and state control over higher education are reduced, the ability to plan the education sector for national needs will completely disappear, as education will be formed in the markets to meet the needs of the market, and international trade will prepare people to meet the requirements of the labor markets of the developed countries [5, p. 62]. Entry to the domestic market of foreign private institutions may also have a negative impact on domestic government institutions, especially in developing countries, which are not necessarily competitive and not fully oriented to the needs of the market and often serve the national interests of more influential countries [5, p. 65].

Individuals with average and higher incomes are more likely to profit from the state financing of higher education rather than low-income groups, thereby exacerbating uneven distribution. Although this argument is true to a certain extent, the situation in developing countries is changing rapidly: access to higher education is no longer limited to middle-level groups, and the level of engagement of poor social and economic groups is increasing, albeit slowly. On the other hand, the adoption of neoliberal arguments on state funding for higher education and the withdrawal of state will reduce the participation of socio-economically weak sectors of society

in higher education and will further emphasize their inequality in accessing higher education services [4, p. 459]. The transformation of education into goods and its internationalization leads to the brain drain and a serious shortage of skilled labor in developing countries. Higher tuition fees paid by foreign students, relatively low wages in their home countries, and better job markets in developed countries will even more potentially contribute to the brain drain [5, p. 65].

With regard to academic research at universities, there is a steady increase in private interests. Knowledge, which is essentially non-exclusive and non-competitive, has been privatized. An argument for the privatization of codified knowledge is the possibility of obtaining high benefits, which in the future encourages more investment in research and creativity [16, p. 139].

Thus, it remains ambiguous whether higher education is a public good or a commodity. Studying at high school is usually a combination of both. Public goods include individual non-market benefits and acquired knowledge that is not excluded or non-competitive. However, when studying creates additional value, it acquires a new feature, which is competition. Apart from that, admission to higher educational institutions with high demand is exclusive. This creates prerequisites for higher education market emergence. The transformation of higher education into goods is caused by the need for institutional independence of universities, as a consequence of neoliberal policies, trade agreements, and bolstered up competition.

As it has already been noted, the second major factor in the functioning of higher education is its funding.

As studies have shown, requirements and expectations to universities and, in particular, to the process of teaching and research, are growing rapidly. However, public investment in higher education is still small, and the costs associated with university activities are increasing, thus, ensuring financial sustainability is a major challenge for universities. The first step for universities in responding to these challenges is to determine the real cost of their activities.

The financing of higher education in Europe, as in the rest of the world, has undergone significant changes over the past decade [14, p. 1]. These trends vary both in different countries and within each country and constitute the context for the current widespread financial rigidity of higher education, as well as new policy decisions that, although constantly changing both between the countries and within them, are nevertheless, very clear and similar [6, p. 4].

The first trend is the increase of the cost of training per one student. The fundamental financial problem of higher education worldwide and the reason that even rich institutions may need to save money begins with the fact that universities face annual cost increases [6, p. 4]. Such a trend of increasing costs per student over inflation is the production function of higher education, more specifically, its natural resistance to continuous replacement of labor by capital, which is the main source of productivity and growth in the general economy. The increase in the cost of higher education is also caused by the creation of new programs and the initiation

of new research, accompanied by enormous technological costs.

The second trend is the fluctuation of the state, namely tax revenues.

Governments around the world are more often struggling with an increase in the tax burden on social insurance and rising costs for primary and secondary education, healthcare, public infrastructure, security and other social security costs.

In Ukraine, during 2017-2019 the GDP spending on education is being reduced. Namely, a decrease in financing from 5.9 % of the GDP in 2018 and 6.2 % in 2019 to 5.6 % of the GDP in 2020.

The third factor affecting the financing of higher education in almost all countries is an increase in the share of world production, especially in developed countries, whose main economic sector is services, or the so-called knowledge economy based on cutting-edge technologies, design, finance and governance. The result of the knowledge economy is the increase of value for both the country and for individuals, or at least for some forms of higher education (especially management, finance, law, mathematics, technology and technology). The financial outcomes of this knowledge-based economy for higher education are manifested through new educational programs and the redistribution of faculties and students among these new programs. These two effects contribute not only to further accelerating growth, but also to the growth of training costs. This creates the basis for increasing investment by both students (or parents) and, where possible, governments [4, p. 7-8].

Strengthening globalization phenomena is the next reason for changes in education.

Decentralization, devolution, and deregulation are the final trends or set of related trends in most countries and reflect state's movement towards reducing the public sector, decentralizing government, privatizing agencies, and encouraging private organizations to provide services that were previously provided by certain government agencies. Although the large public sector and tax redistribution are preserved in many countries, such as the Scandinavian countries, new effective state governance replaces state ownership of all means of production and the domination of the state bureaucracy [6, p. 9].

At long last, the impact of decentralization, devolution and deregulation on the financing of higher education is to encourage the development of private higher education and the privatization of state higher education. Universities around the world, both state and private, move from the status of state institutions to the status of state-owned corporations and carry out all the functions inherent in private ownership, regardless of the legal direction of their missions or their constant dependence on government revenues [3, p. 2].

In Ukraine, state form of ownership of universities is prevailing. In 2014, there was a decrease in the number of both public and private universities. As of the 2017/2018 academic years, the number of private higher education establishments amounted to 157, i.e. 23.7 %. In general, the number of universities of both forms of ownership has somewhat declined.

With consideration for the global trends in higher education, universities have taken measures on costs and incomes. Cost decisions often raise questions about whether they affect the quality of education; income decisions often mean an unprecedented burden for households, that is, the families of students. Simple short-term solutions in regard with costs are increasing the size of groups and training load, differentiating the load on the faculty by hiring part-time workers and reducing low priority programs. Universities can freeze salaries or scholarships for students; reduce wage costs, maintenance and repairs. [6, p. 11]. The decision of the financial economy of higher education, which involves reducing costs, appeals to many political and economic rights. Reducing costs does not mean increased efficiency or productivity. In many countries, there is still the idea that much more fundamental changes are needed, if not necessarily for all institutions, then at least for some institutions or some higher education systems. These more fundamental, radical and systemic changes, for example, may include: a more radical diversification of the industry, mergers, technically equipped training, e-learning and virtual universities.

There is more radical diversification of the industry, especially in those countries (e.g. Italy, Spain and other Southern European countries), where the classical research university still dominates with its leading faculties, and where practically all faculties are more focused on research and disciplines, and not really on university and students, is quite complicated to implement. The sector's diversification or relative change in the short-term is less expensive, less selective, more professional-oriented, and involves more hierarchically driven universities whose faculties are focused on learning rather than on research, often considered as a partial solution for the needs of higher education institutions [6, p. 14].

A merger, at least theoretically, can reduce the prime costs by increasing the scale of operations and obtaining cost savings for such departments as libraries and administration. But for real reduction of expenses it is necessary to reduce faculties and employees, including the highest management, additional services, elimination of some academic programs and the rejection of precious institutional identities – measures that universities resist both institutionally and politically. If the merger is only nominal, that is, most programs and faculties are preserved, and simply the president or rector and several other top-level administrators are eliminated, the result will be more difficult and less effective management, demoralized faculties (both institutions) and the inability to realize significant savings as a real merger, and the complete closure of one of the supposedly «united» institutions. At the same time, institutional mergers may be both necessary and feasible and have actually taken place in countries where many universities are developing on a narrow scale [6, p. 14-15].

Technically equipped training, e-learning and virtual universities are the third option of a radical change in the University's cost cutting strategy. In most countries, there is an explosion in technological and remote learning, although the most successful programs were mostly outside of higher education and not in the direction of radical transformation of existing universities. New virtual universities

sometimes attract a lot of interest, which eventually abates, as students of traditional higher education still want to get more complete experience within the university. Yet, there is definitely a great deal of interest from existing universities in all types of educational technologies, mainly as an addition to traditional teaching methods, as well as to provide a real e-learning. In developing and low-income countries, the potential may be greater than those who study in remote locations where the main costs of higher education are out-of-home spending (although lack of personal computers and good Internet connectivity may continue to be the main obstacle).

Despite the fact that innovation in teaching technology can ease the sense of financial constraints, the experience of more affluent industrialized countries suggests that educational technologies can enrich training, but significantly increase, at least in the short-run, the cost of training of a single student. If the goal is to give students access to curricula, remote learning can bring significant savings compared to alternative student placement in classrooms. However, for a single institution or even a national system that seeks to cope with disparate cost and income trajectory, most remote learning programs can enrich learning, but will in fact cost more than traditional training in case of creating an independent platform [6, p. 15].

Measures for increasing income include raising tuition fees, encouraging philanthropy, democratizing knowledge and access, relying more on the market, the private sector, and encouraging entrepreneurship in the faculties. Another opportunity for boosting cash inflow of universities is the establishment of a foreign campus or the encouragement of foreign students. It is believed that an increase in income is a better method than relying on a tuition fee that may fluctuate over time. High tuition fee involves certain contribution from parents. It is often difficult to determine paternal readiness to contribute to higher education [6, p. 43]. High tuition fees may sometimes hold back low-income students, especially in countries with underdeveloped crediting system. In some countries philanthropy has made a significant contribution to education. The tradition of charity may be stronger in some cultures than in others. For example, in the United States, philanthropy has been very helpful in providing grants and helping low-income families [6, p.13]. In the UK, philanthropy accounts for 10 percent of university profits. In Europe, there are still psychological obstacles to raising funds with which charity is associated.

Traditionally, universities had the key to knowledge both in the physical and philosophical sense. University libraries, faculties and research institutes, where knowledge was created, store and share it. Now knowledge is open to anyone who has a device and a connection, which makes it possible not just to receive facts and figures, but also to conduct analysis, interpret knowledge. Back in 2007 OECD proposed the «Open Educational Resources» program. The OER project aims to promote access to learning for all, as well as for unconventional student groups, and, consequently, to expand participation in higher education. This can be an effective way to promote life-long learning for both individuals and the government, helping to bridge the gap between informal and formal education. Although there

are no statistics yet, there is a rapid expansion of the number of OER projects, as well as the number of people involved and the amount of available resources. In January 2007, the OECD identified over 3,000 open academic programs from 300 universities around the world. Although English is the dominant language to date, translation of resources in combination with the growing number of non-English OER projects will have the potential to increase global use. The benefits of open educational resources include the following: education is available to anyone; access free of charge, ideally; students can try the course before registration; flexible study periods not related to weekly schedules or calendar semesters; students work at their own pace; access from anywhere in the world; access to a huge amount of training materials; Intellectual capital is available for repeated use.

The PPP is the next method of increasing university profits. The PPP can be defined as an agreement that the state concludes with a private service provider for certain services in order to purchase a specific service at a specified amount and quality at an agreed price for a certain period. This definition covers several different types of contracts that allow you to purchase various services and vary in their complexity. These services comprise educational services (management, maintenance and support, such as transport), maintenance services and infrastructure. There are 4 main types of contracts: vouchers, subsidies, private management and operations and private financial initiatives. The ultimate goal of the PPP is to increase the number of enrolled students and to improve the educational outcomes, in particular, the number of students from low-income families [11, p.17-18].

Online education, which still remains to be cutting-edge among social technologies, has been used to improve distance learning by adding various enhancements, changes or blending of new pedagogical approaches and technologies. Technologies used for distance learning and online learning include: correspondence classes, postal and printed publications; telephone and / or sound recordings; television and / or video recordings; computer auxiliary instruction; group communications (asynchronous and synchronous); web and multimedia materials; simulation and games; coeducation; asynchronous learning networks (ALN); common knowledge systems; immersed simulation; and wireless and portable devices. Most modern distance courses include one or more of these technologies or methodologies. Technology itself has not radically changed the basic concepts of distance learning or university education from the point of view of the basic social function of education. However, there is a substitution process that can modify higher education. Gradually higher education is driven by direct communication with the use of teacher-oriented pedagogy offered by dozens of local, regional and national universities to online and hybrid digital technology courses to support constructivist, joint, student-centered pedagogy offered by several «mega universities» working in global scale. [13, p. 59-60]. Digital technologies will not cause the disappearance of the traditional university. Campuses will continue to exist as places of teaching and learning, research, community involvement and diverse

forms of student activity. But digital technology transforms the way education is provided and maintained, for example, through real-time feedback programs and education in remote areas, both in developed and in developing countries.

Digital technologies also fundamentally transform the way of creating value within higher education and related industries [7, p. 9]. At present, the two most common types of distance learning are provided online: MOOCs and SPOCs, which differ, first and foremost, in the number of students they provide services to. MOOC is an online open access course (i.e. without a special limitation of participation), which allows you to participate without restrictions, that is massively. Many MOOCs provide interactive elements to encourage interaction between students and between students and teachers, although the latter is not a mandatory attribute. The MOOC, with the exception of unlimited size, traditionally includes students, separated by both space and time, which allows students to study independently at their own pace without being required to adhere to a particular schedule [13, p. 6]. SPOC is an online course that offers only limited number of seats and, therefore, requires some form of enrollment. SPOCs often have a competitive admission and can charge a tuition fee. Despite the fact that the creation of MOOC is not cheap, it can bring significant savings, for example, for courses taught in several specialties in parallel throughout the year or in different places. The last approach applies to institutions with university campuses in different regions. The MOOC can also help to ensure a sufficient level of audience coverage by in-service lecturers, whose work sometimes costs more than the work of the freelancers. In addition, the introduction of the MOOC may also create a potential for new revenues, for example, in case of fees charged for obtaining a certificate or, if other institutions use MOOC, for your own training. Branding is important not only for the sale of consumer goods, but also for the sale of education. Universities today find themselves in an increasingly competitive environment and in a constant struggle to attract the brightest students, the best teachers and cash. MOOC can help to create the right positioning and distinguish the university from others, like a viral marketing campaign or effective advertising.

The need to study the efficiency of public funding for universities is becoming increasingly important for a number of reasons. The growth of social demand for higher education, the globalization and the internationalization of higher education, the recognition of the need to improve the quality of research coincides with the financial aspects of the activities of higher educational institutions. Financing of the system of higher educational institutions is one of the most important elements that determines the whole system of higher education - both institutional and qualitative, its accessibility and other parameters [10, p. 336]. In accordance with the interaction of funding sources and the impact of funding recipients on the system of higher education, bureaucratic, collegiate and market financial models can be distinguished [10, p. 336].

The basic principle of the bureaucratic financial model of higher education is the full financing of the budgets of higher educational institutions from public

resources. In this case, the state directly influences all spheres of activity of the higher educational institution through legal and financial instruments, which accordingly determines the structure of the higher education institution, in particular the number of departments, employees and the number of students enrolled, the need for certain branches of study and research. Government institutions control the use of financial resources. Higher educational institutions do not have the authority to manage their long-term tangible assets and, in essence, carry out state orders. The state can delegate certain functions to different supervisory bodies, where members of the academic community usually take part [10, p. 337].

One of the main advantages of this model is that in this way, the state can fully satisfy its needs by training and controlling the required number of specialists. The state also obtains opportunities and mechanisms for ensuring the qualitative research provided by legal acts. However, this model has more disadvantages than advantages. First, strict and centralized financing (usually accompanied by an elaborate regulation by the state) almost completely limits the real institutional autonomy and academic freedom of higher education institutions in solving issues related to the activities of the university. The system of higher education, too, becomes dependent on political power and can often become a hostage to various questionable political decisions. As a rule, educational institutions, where such a model of financing is implemented, is not allowed to dispose of financial resources on its own. Resources are allocated on the basis of data of the previous year, which, in turn, contributes to the ill-considered use of them, ignoring the daily needs of the university, which may change in the course of annual financial activity. It is also problematic to introduce changes that require rapid decision-making, as the decision-making process is usually regulated in detail, followed by numerous bureaucratic procedures. Despite the fact that the quality of education is regulated by the state, this reveals the weakness of such a model, because the quality assessment system should be legitimized and carefully described by both internal and external regulatory standards [10, p. 338].

A collegiate model usually envisages state-funded activities of higher education institutions and retains the right of universities to raise funds for individuals (through tuition fees, remuneration for services provided in projects, for research, for the funding of certain programs or scholarships) it also includes the right of academic institutions to freely dispose of their resources. Such system of financing requires an appropriate management system for each particular model that can be described as a professional management model, where professionals, selected staff and students of the university manage the higher education institution. Such financing models and management models have their advantages and disadvantages. When the resources at the disposal of the university coincide with the academic needs, there is a high quality of academic services and strong academic solidarity. The prerequisite for this model is that higher education institutions have the right to full institutional autonomy, especially in the processes of management and distribution of resources,

which undoubtedly positively affects academic freedom, higher education quality and optimal use of financial resources [10, p. 339-340].

Notwithstanding all the benefits, the use of a collegiate model of higher education funding may inevitably have some negative consequences. One of the most frequent negative aspects (also inherent in the bureaucratic model) is that the state budget is redistributed to the system of higher education from all members of society, but only for representatives of a certain social status, which are socially meaningful and financially privileged [10, p. 340].

The third model of financing higher education, the so-called market model, is becoming more prevalent. It is characterized not only by its ability to attract alternative financial resources, but also by its commitment to cooperate and coordinate the work of all participants in the system of higher education institutions, in particular those providing academic services (lecturers and scholars), using services (students and their employers) and a state representing the interests of society, the governing bodies of universities, which are responsible for the efficient, high-quality functioning of the institution. The plurality of interests and financial resources, as well as the mechanism of their distribution, creates favorable conditions for expanding activities that are in the interests of different groups of society. It is believed that such a model of financing may not be the main contractor of higher education services, which, by regulation, will determine priorities. Universities are looking for and attracting more and more diverse funding sources that will ensure a high-quality and efficient functioning of an institution that meets the needs of the market. At the same time, the market-based financing model requires higher education institutions to provide sufficient information about their activities and foresees maximum financial and high-quality accountability, as investors (state, enterprises, private organizations, etc.) are interested in co-operating with clearly defined academic and managerial processes [10, p. 343].

This model emphasizes the balance between public and private funding, where the latter is a priority. One of the main benefits of this model is the competition between higher education institutions for private sector resources, which will allow universities to lower tuition fees, seek better quality, respond in a timely manner to market demand. The weakness of a market model is that, as a rule, rapid academic and scientific results are required, which may be incompatible with academic freedom [10, p. 344].

The analytical assessment of various university funding models and the analysis of the state-funding model for higher education institutions in Ukraine suggests that Ukraine has already moved away from the bureaucratic financial model of higher education, but has not yet fully implemented a collegiate model. Currently, the national funding model for higher education is now being sought. The proposal of the CEDOS analytical center on the replacement of the mechanism of public procurement model of state funding of higher education institutions by performance (based on performance) is interesting [12].

Thus, the conducted research proves that higher education is becoming increasingly commercialized and acquiring signs of a private good. And this requires dramatic changes in the policy of public financing of higher education.

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ANALYSIS OF MODERN TECHNOLOGIES OF MANAGEMENT OF PERSONNEL SAFETY OF THE ENTERPRISES

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In today's conditions, domestic enterprises have to operate in unstable market conditions, unpredictable political, economic and social processes, which on the one hand creates a dynamic and unstable environment for work on the other. All this encourages managers of enterprises to find and implement effective technologies and measures to solve economic, technological, information and other problems that arise from the outside, and to adapt the enterprise to work in these conditions.

The theoretical foundations of the technography of personnel safety management of enterprises were considered by such authors as I. L. Dobrotvorsky, V. G. Kozachenko, N. Kozachuk, O. E .Kuzmin, S. G. Pirogov, O. V. Sakharova, I. M. Sochinsk-Sibirtseva, etc. However, the theoretical aspects of HRM require more detailed consideration and generalization.

Personnel security is one of the main components of economic security of any enterprise, because it means people who are the most important and at the same time the most complex resource of the enterprise.

Specificity of the human factor in comparison with other factors of economic development is that, firstly, people not only create, but also consume material and spiritual values; secondly, the multifaceted nature of human life is not limited to work activity, and therefore, in order to use human labor effectively, one must always take into account the needs of the individual as a person; thirdly, scientific and technological progress and social orientation of social life are rapidly increasing the economic role of knowledge, morality, intellectual potential and other personal qualities of workers, who are formed for years and generations, and are revealed by man only under favorable conditions [9].

In today's sense, enterprises should be considered in the aspect of interrelated elements. This system can only reproduce its inherent properties based on its own system-creating resources. An important factor is the ability to influence and manage these resources.

The processes that occur when making certain managerial decisions can be called the technologicalization of management activities. The technologicalization of

management is a natural consequence of technological revolution, computerization of almost all activities. Today, it is a hallmark of enterprise management. It determines the search for those management tools that can be used effectively in the management of the enterprise.

Management technology contributes to its rationalization, eliminates those jobs and actions of executives and specialists, which are not necessary to achieve the expected result of management activities, formalizes the implementation of management functions [2].

Technology (from the Greek – art, skill, ability) in the general sense of the word – a set of organizational measures, operations and methods aimed at the manufacture, maintenance, operation of the product with nominal quality and optimal costs, which are due to the current level of development of science, technology and society as a whole [5].

Management technology is a sequence of actions that results in a guaranteed result. It consists of information, computing, organizational operations, which are performed by managers and specialists of different profiles by defined algorithm. Under the technology of personnel management we mean a set of techniques, methods of influencing personnel in the process of hiring, using, developing and releasing them in order to obtain effective end results of work [8].

Management technologies provide an opportunity, according to the chosen approach to enterprise management, to implement management principles, to use its methods, to organize management processes.

Management technology reflects its content, processes of movement and processing of information, determines the composition and procedure of management work, during which information is transformed and creates grounds for influencing a managed object in order to translate it to the desired state, allows to ensure the rational interaction of structural units and individual performers in the management process [2].

In the general form of management technologies are considered as a set of knowledge about the ways and forms of application of elements of the enterprise management system in management processes, covering all the processes occurring at the enterprise, as well as between the enterprise and the external environment [1, p. 34]. More accurate is the interpretation of management technology as a set of management information processing methods for the development, adoption and implementation of management decisions [10], and the most appropriate is the recognition of technology management system operations and procedures performed by executives, specialists and technical executors in a specific sequence using the necessary methods and techniques [11].

In today's context, we can see a close connection of all components of technology with each other. This is clearly visible both within the personnel management system and with external factors.

In modern management the most widespread management technologies are:

- linear control technology;
- management of deviations;
- results management;
- management by purpose;
- situation management.

Let's look at each of these technologies separately.

Linear technology is a strict sequence of individual works and operations performed in accordance with a pre-planned plan [7]. The biggest disadvantage of this technology is the very slow response to dramatic changes in the environment.

Deviation management is done by fixing deviations from planned actions and implementing measures to eliminate undesirable effects. The effect of this technology is manifested in the concentration of time in more important areas in the field of management, filtering and distribution of information for making management decisions, increasing the validity of the decisions made and reducing their number, increasing the productivity of staff and the interaction of functional units [8].

The main purpose of results management is to make management decisions, depending on what level of previous goals have been achieved. This technology requires constant monitoring and monitoring at the enterprise as it is based on the individual responsibility of the employees.

Goal management can be described as an approach that aims to set goals and find ways to achieve the best results.

The term «goal management» was first introduced into the theory and practice of Peter Drucker management and meant the anticipation of possible results of activities and planning of appropriate ways of their achievement [6].

O. E. Kuzmin defines: – «Goals management is an approach whereby every organization leader must have clear goals that will ensure that the goals of senior executives are achieved» [4]. This technology allows to monitor the effectiveness of employees.

Situation management is the operational management that is implemented in addition to the strategic and perspective. The content of this technology is to make management decisions in the course of problems in accordance with the situation in the enterprise. The use of situation management technology is carried out in several stages: analysis of the situation in which the enterprise was; evaluation of the properties of existing management models; selection of an acceptable effective model in a particular situation [8].

Management technologies have certain characteristics that can be evaluated. The characteristics of management technology and how to evaluate them have not yet been fully explored, and this question still needs to be addressed. But such characteristics include, for example, the cost-effectiveness of the technology (the cost of developing or adapting and applying the technology should be comparable to the magnitude of the losses resulting from errors in management decisions, their delay or poor implementation), the flexibility of the technology (the technology

should be applicable when some change in the conditions for which it was originally developed), the reliability of technology (obtaining when using the technology of a given result) [2].

The main task of personnel management technology is to optimize and improve the efficiency of the management system. This can be achieved by choosing the most rational management decision-making methods, which will have the most effective impact on the company's staff.

Management technology is a major component of the management process. The management process, in turn, is the basis for the overall management system. The formation of personnel management technology allows us to find out which categories are most necessary for this process, which can be attributed to the principles, methods and functions of influencing workers.

The objective need to develop methodological recommendations for the implementation of HRM is supported by the results of the following studies. Organizational development consultants of manufacturing enterprises estimate that only 10 % of employees can clearly state the goals of their own activity at the enterprise and only half of them are in line with management's view [3].

Clear and understandable goals that are set before the staff are a necessary part of a successful business. Otherwise, when workers do not understand the ultimate, ineffective methods of achieving strategic goals begin to be used, the efficiency of using all available resources, labor, material, information and financial resources is reduced. Each HRM technology selected has a significant impact on performance through the methods and sequence of actions implemented. The use of management technologies is appropriate if it is often enough to have similar situations that require the use of similar actions, situations for which standard management algorithms are first created. This allows you not to waste time developing management techniques, you need to identify a specific management situation and get a ready solution based on a typical scheme.

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THE MISSION OF THE MODERN RESEARCH UNIVERSITY IN UKRAINE

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A clear understanding of the mission of the research university is an important factor in its strategic management efficiency. The clearly-determined mission of research universities provides ground to define the main goals of the university's activity, to describe the top-priority directions of this activity, to distinguish the individual features of the research university and is decisive in the adoption of the development strategy of the research university. The mission of the research university must be transformed and adapted to the current realities, primarily taking into account the peculiarities and stages of the university development.

A great number of prominent scientists investigated the issue under discussion and made a significant contribution to the substantiation and verification of the features of a research university management system. Among them F. Altbakh, L. Antoniuk, V. Andrushchenko, O. Auzan, V. Bakirov, V. Bakhrushin, N. Demianenko, G. Etzkovitts, O. Zhilinska, V. Zhuravliov, M. Zgurovsky,

A. Karpov, B. Clark, M. Kolotylo, G. Mayer, J. Salmi, V. Satsyk, M. Sytnytsky, J. Scott, V. Supian, S. Tulchinskaya. The issues of universities' mission are in the focus of numerous scientific works by such scientists as I. Zakharov, T. Zhyzhko, V. Zhuravliov, M. Kvek, S.Kvit, K.Kerr, N. Kozlov, E. Kolesnykov, S. Kurbatov, N. Makarkin, O. Ohienko, H. Ortega-i-Gasset, N. Plaksin, V. Povzun, S. Proleiev, V. Rodachyn, A. Sbruiev, L. Shevchenko, N. Yasynska and others. Although a considerable amount of the theoretical and practical studies have been devoted to the issues of the university mission, the problem of the applied principles for the formation of a research university mission is not fully disclosed and therefore is still urgent.

In their majority, scientists and the heads of the higher education institutions equal the mission of a university with its idea. There are several approaches to the definition of the university mission. Among them the following ones:

- mission of a university – a clear vision of the values, goals, and the university development space [1, c. 43];

- university mission is a perspective vision of the university image, the principles, and the ways of promoting the ideal [2, p. 10].

- mission of a university is clear grounding for university functioning [3, p. 31].

- mission of a university answers the principal question of what an individual's needs the organization satisfies [3, p. 32].

A distinguishing feature of a research university is the factor that its staff carries out intensive research work there. In 1809, the first educational institution was opened in Berlin. It falls into a category of a research university now. It was this new-type university that taught a small number of students and was primarily a place of active research.

The motto of the newly created V. von Humboldt University was Aptitude for the Sciences, and the basic principles were academic freedom, the priority of scientific research, and the elite scientific personnel training [4, p. 31].

The fundamental provisions of the Humboldt University support the idea of learning via research, while the university mission realization is possible only in terms of university autonomy suggested by the philosopher and focused on three main principles.

1. Interpreting knowledge as a means of achieving goals which are external to the carrier of that knowledge.

2. Preventing the domination of experimental or empirical studies opposing the fundamental theoretical knowledge.

3. Laying importance on humanitarian education.

It was Humboldt who described the idea of the humanistic mission of education in his research and regarded learning and research as the essential components of a university mission that organically unite in the educational activity of this institution. Universities, reaching their goals, promote the government goals, expanding «views horizons».

S. O. Tuchynska argues that «university is a place of free scientific search, where the student gets acquainted with the basic principles of research» [2, p. 323-324].

J. Newman did not support W. Humboldt's principles, emphasizing the educational function of the university.

He believed that university should spread and promote knowledge but not concentrate only on the current knowledge acquisition [5, p. 85]. In his view, a university is a place where universal knowledge is taught.

Jose Ortega-i-Gasset considered three basic functions of university education [6, p. 36]:

1) transfering cultural values;

2) training in a profession;

3) scientific research and teaching science to new scholars.

Currently, in the educational space there are four basic models of universities, historically formed in Western Europe and the United States (by T. Husen):

1. «Humboldt Research University» relies on the model where the scientific and learning activities are treated as complementary components from the very beginning of the university course; students must gain experience in communicating with the advanced science in the continuous process of seeking new scientific knowledge in order to become pioneers in the relevant professional fields in the future.

2. The British boarding model (the «Oxbridge model») is based on a private informal communication between students and teachers. This communication takes the form of tutorials and is considered no less important for the student development than attending lectures and seminars.

3. The French model of «big schools» has become a symbol of a state-led meritocratic society, where highly educated professionals fall into a category of the superelite. These schools, which do not involve research intellectually and socially, are highly selective.

4. The Chicago model (by T. Hutchins) is a comprehensive program with a pronounced humanitarian bias. In terms of this model, the main goal is «to acquaint the student with the views of leading scholars in the field of humanities, natural and social sciences, to develop in him the desire and need for further self-education, independence, and critical thinking» [7].

An essential element of the research university activity content is the integration of the educational process and fundamental scientific research, while the main objectives of this activity are determined as knowledge acquisition, knowledge accumulation, and knowledge preservation. In general, the structural features of a research university correspond to the classic university model. However, the research university focuses more on the system of identification and promotion of the talented students (training programs abroad, grants, and awards for young scientists).

E. Mikhailova is convinced, that despite the differences in the approaches to the issues of university education «the main tasks of the university remain unchanged,

which at all times have implied enriching scientific knowledge, involvement in culture, forming the intellectual elite of the state and society, and support of the academic and scientific traditions» [8, c. 81].

The analysis of the official web-sites of Ukrainian research universities and the University Development Strategies made it possible to shed light on the missions of the Ukrainian research universities. In particular, the study has revealed that the university mission is not clearly spelled out and defined in most leading Ukrainian universities.

Many research universities identify their mission in terms of the goals, motto, and slogans of the university. The study has revealed that the clarification of the mission in most universities' programs is too wordy, while in the business environment, it is customary to describe the mission of a company in a single sentence. Comparative analysis of the missions of the research universities gives grounds to conclude that all universities follow the basic principles of learning and teaching, but the main goal, described as the missions of all Ukrainian research universities, is still not the research aspect but educational one. The acquisition and dissemination of knowledge, formation of the creative, highly-educated, and intellectual personality are the top-priority tasks in the strategic policies of the national universities. Some research universities add the issues of training, formation, and development of an individual or nation. Taras Shevchenko Kyiv National University lays emphasis on the «educational, research and innovative activity» [9]; V.N.Karazin Kharkiv National university on the «formation of the intellectual elite of the nation, training of highly professional, spiritually rich, and patriotic specialists and citizens» [10]; Igor Sikorsky Kyiv Polytechnic Institute seeks «to create conditions for the comprehensive professional, intellectual, social, and creative development of the individual at the highest levels of excellence in the educational and scientific environment» [11]; the National University of Kyiv-Mohyla Academy states that «Mohyla is a community that forms a highly-educated, nationally-conscious, honest, caring, creative personality, able to think independently and responsibly in accordance with the principles of the good and justice, for the sake of developing an open and democratic society» [12]; National University of Life and Environmental Sciences defines its mission as «to train specialists at the European and world level of the intellectual and personal development» [13], while the Vadym Hetman Kyiv National Economic University sees it as «training competitive professionals and creative personalities» [15]; National Technical University «Kharkiv Polytechnic Institute» aims its policy at «promoting the harmonious development of the individual and ensuring the preparation of a new generation of professionals capable of integrating research, design, and entrepreneurship via deep mastering of basic knowledge, studying engineering, mastering engineering creativity and enterprising art» [16] and Ivan Franko Lviv National University seeks «to raise the personality as the bearer of intellectual and innovative ideas potential» [17].

The key findings of the study argue that the missions of only six research

universities, namely the Igor Sikorsky Kyiv Polytechnic University, the National Aviation University, the Vadym Hetman Kiev National Economic University, the National Technical University Kharkiv Polytechnic Institute, the National Mining University of Ukraine and the Volodymyr Dahl East Ukrainian University focus on the creation of new knowledge and development of the society through the creation and implementation of innovations. The following excerpts are provided to support and illustrate the above statement.

1) «Make a significant contribution to the sustainable development of society via the internationalization and integration of education, the latest research and innovative achievements» (Igor Sikorsky Kyiv Polytechnic University) [11];

2) «the mission is to respond to the current challenges of the global aerospace market by providing high quality education and scientific services to the Ukrainian citizens» (the National Aviation University) [14];

3) «making a significant contribution to social development via research and generation of new knowledge» (Vadym Hetman Kiev National Economic University) [15];

4) «carry out fundamental and applied scientific researches, integrating their results in the educational process, satisfy the needs of enterprises and institutions via effective technology of cooperation and at the expense of the continuity of the research traditions and schools» (National Technical University Kharkiv Polytechnic Institute) [16];

5) «generate the changes that the region, country and the world need» (the National Mining University of Ukraine)[18];

6) Volodymyr Dahl East Ukrainian University summarized the functions of the University in its mission, defining their main areas of development, namely «the mission is implemented by the university through the main areas of its development, which include socio-educational, educational, innovative, research, international, financial, production and economic activity» [20], however, in the Strategy of Volodymyr Dahl East Ukrainian University Development, the emphasis is laid on the dynamic influence on the socio-economic development of the country [21].

Therefore, the educational and research functions of universities are fundamental and indispensable for the development of any university. In his study, T.Zhyzhko states that "the interdependence of education and science today is not only the truth obvious to everyone, not only a demand of the time but also the only promising path for university development. If we accept the constant that university has always been different from other educational institutions and in terms of its goals will be different in the future, then the approach «education via science» is the only promising way of modern university prospering. We can claim without exaggeration that «the future of human progress depends greatly on the unity of science and education, which can promote sustainable social development» [22, p. 36-37].

F. Altbach is convinced that in any country it is the research university that creates and generates not only a large amount of new knowledge and analytics,

which in turn leads to the development of technology, but also contributes to the development of culture, society, technology, and international institutions which are an integral part of global intellectual and scientific trends [23, p. 11].

Quite interesting is the opinion of the Hong Kong University of Education, which was founded in 1994 as the Hong Kong Institute on Education, is one of the eight subsidized universities under the Hong Kong University Grants Committee, and the only one dealing with pedagogical education. It describes its own mission as promoting educational innovations, supporting the strategic development of teaching technologies, equipping prospective teachers with the knowledge in their majors and the skills they require to perform their tasks effectively, preparing highly-qualified and morally responsible teachers, motivated for lifelong

learning [24]. We share the opinion that lifelong learning is a fundamental issue in personality development. P.Drucker argues that education in the «knowledge-oriented society» requires continuity, advanced learning, and an integrated approach. He states: «As we live in the era of innovation, the practical education model must prepare a person for a job that does not yet exist and cannot be clearly defined» [25].

Therefore, the mission of a research university should be inspiring, aimed at expounding the main goal of its research activity and integrating efforts of the students, teachers, and all the staff of a research university to implement the corporate idea. The main criteria for formulating the mission of a research university are logic, clarity, meaningful content, and conciseness (1-2 sentences). The university mission should comprise the main goal of the university activity, its impact on society improvement, and the features that differentiate it among other universities.

Summing up the above provisions and findings of this study, we can assume that the universal mission of research universities is to create breakthrough innovations and technologies, to generate breakthrough scientific knowledge, and to train not just highly qualified and educated professionals ready to translate and transfer existing knowledge, but more proactive individuals in comparison with the current practice. It is the development of the strict advanced requirements to the graduate's qualification with a focus on his/her proactiveness, the involvement of students in the development of new scientific research of the university, and their participation in project teams that will promote new skills and enrich students' knowledge. In turn, the university has a synergistic effect from the collaboration between students, teachers, and academics. Since the students are generators of new ideas, this cooperation will increase the competitiveness of the university. This approach will provide scientists and practitioners with the mechanisms to address the problems and needs of society quickly and promptly, taking into account the rapid changes in the economic sphere.

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