PART 3. CURRENT NATIONAL AND GLOBAL FUNDAMENTALS OF SOCIAL AND ECONOMIC SYSTEMS' DEVELOPMENT

MONETARY FLOWS IN ENSURING A STABLE CONDITION OF ENTERPRISE'S FINANCIAL RESOURCES

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Economic development on consistent market principles stipulates the process of strengthening the role of the financial instruments of economic subjects. The competitiveness and solvency of agricultural enterprises are determined by the rational organization of financial resources. The organization of enterprise's financial activity has to be constructed in such a way that it contributed to the development and efficiency of production.

The production activity of subjects in agro-industrial complex as commodity producers of under market economy must ensure stable state of financial resources concerning their formation and preservation, conducting the reproductive processes of performing financial obligations.

The functioning of the enterprise is accompanied by continuous flow of financial resources and receiving income. Besides, the sources of funds' flow, directions and forms of financing are determined and the structure of equity capital is optimized. So the formation of financial resources of commodity producers is understood as the activities directed at rational using available owned and attracted financial resources with the maximal effect, and which is accompanied by the level of profitability as to the management of all economic processes in line with this direction.

The optimal forms of financing sources determine the choice of structural construction of enterprise equity capital, the directions of its using aimed at ensuring consistently high profitability level, balance between money inflow and expenditure, which is the main goal of commodity producer and consists in proper stabilization of production. According to the formation of financial resources concerning the monetary flows, financing is divided into internal and external (Fig.1).

The internal sources of financing are conducted at the expense of monetry flows received from enterprise and profit reformation (income according to the kinds of activities). But it should be noted that in the process of enterprise reformation the monetary flows are divided by time and they are future value, because their incoming will take place during economic-financial activities, and at the stage of

the financial resources' formation they reflect their estimation in monetary value.

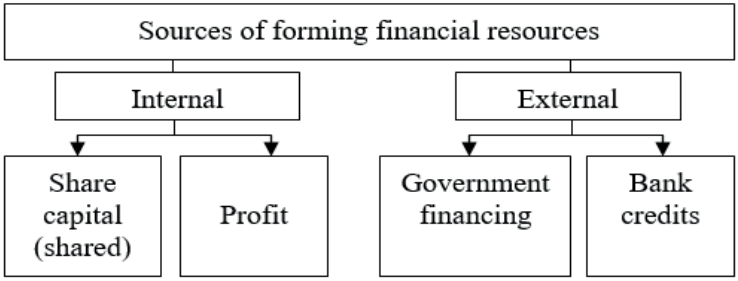

Fig.1. Formation of the sources of financial resources

The external sources of financing characterize monetary flows received by the Government financing (providing benefits, donations), bank crediting, incoming shares and money from new participants.

The enterprise is always highly interested in loans as sources of replenishing frozen capital in long-term accounts receivable of current capital. In this situation, the question of limits while using credit as a source of incoming monetary flows arises. This issue is related to the double impact, resulting from the use of credit on the financial position of the enterprise as a whole and the state of current capital in particular.

On the one hand, without bringing into circulation credit resources under the deficit of equity capital, the company must either reduce or stop the production of the corresponding kind of product that carries serious financial complications up to bankruptcy. On the other hand, the solution of the problems only with the help of credits leads to increasing the enterprise's dependence on credit resources as a result of increased liabilities. This leads to increasing the instability of the financial position, the role of own working capital is diminished, passing into the ownership of the bank, as enterprises on the whole do not ensure the rate of return on invested capital, given as bank interest.

Accounts payable refer to unplanned attracted sources in the formation of initial monetary flows. Their presence means participating in the enterprise's turnover the assets of other enterprises and organizations. A part of accounts payable is regular because it is derived from the existing order of payments. In addition, the accounts payable may arise as a result of payment failure. It is also worth identifying other sources of forming monetary flows, which include enterprise's assets that are temporarily not used for the designated purpose. Therefore, the correct correlation of owned, borrowed, and attracted sources of the monetary flows' formation plays an important role in strengthening the financial position of the enterprise.

Not all monetary flows should be identified with money as well as the assets involved in production because the aggregate value is advanced in the form of

money and, passing the corresponding production process again takes this form. Monetary flows mediate the assets' movement. The aggregate value expressed in money, is transformed in the actual monetary flows only in due course.

Therefore, monetary flows represent a value that is advanced in monetary form for planned creating and using current production assets and circulation fund in the minimal necessary amount required to ensure the fulfillment of the production program by enterprise with timely settlements reproducing their synchronicity. However, monetary flows of enterprise perform two synchronization functions: production and estimation. Conducting production function, incoming monetary flows advance the current production assets, support the continuity of the production process and transfer their cost to the manufactured product. Upon completing the production monetary flows transfer into circulation sector as circulation funds, in which they perform the function consisting in completing the circulation and transformation of current capital from the commodity form into monetary.

The efficient functioning of economic subject largely depends on the full and timely mobilizing financial resources, their targeted using to ensure the optimal conditions for the production process and allocation of production assets.

Considering the formation of financial resources from the perspective of enterprise financial activity as a managerial function, the essence of the term "financial resources" has not yet obtained generally accepted opinion from the scientific viewpoint. In order to be convinced in it, it is enough to address the recent research publications on the problems of finance and financial-credit mechanism. Some authors do not include business subjects to the financial resources at their disposal – own fixed and current assets, borrowings, bank credits, which significantly limits the notion of the financial activities of economic subjects [3].

In our opinion it is necessary to be based on the following considerations as to defining financial resources:

- the component of enterprise's production relations;
- the formation in the process of implementing economic-financial relations;
- designated using.

Thus, when it concerns financial resources, it means the movement of all monetary flows accumulated by designated purpose funds for certain expenses.

Taking into account all these considerations, it can be stated that financial resources are centralized and decentralized monetary flows of designated purpose, formed in the process of distribution and redistribution of the aggregate product, and intended for using according to the directions of enterprise's economic development.

The centralization of monetary flows is conducted at the state level, by which the functions of investing and providing certain benefits (taxation, crediting) to commodity producers are carried out with the aim of supporting and developing the manufacturing of products in agro-industrial sector.

The decentralization of monetary flows takes place at the enterprise level in the process of financial-economic activities and consists of its definite elements:

equity capital, depreciation fund, short-term or long-term crediting, indebtedness to counterparties, and borrowed money.

Thus, the main source of forming enterprise's financial resources is monetary flows movement, which is manifested in independent function concerning the process of formation, distribution and using of monetary resources in accordance with their designated purpose.

The process of financial resources formation begins at the stage of determining the structure of equity capital as to means of production income and recovery with accumulating monetary resources and their subsequent distributing in the form of incomes. The process of equity capital formation using enterprise's financial resources is the process of monetary flows' formation to ensure the main kinds of activities.

The movement of monetary flows quantitatively reflects all the stages of the reproduction process through the formation, distribution and use of monetary resources for the designated purpose. Hence, financial resources are a vitally important system of enterprise's economy, which ensures its functioning. The movement of monetary flows is the speed and scope of activities that determine the efficiency of its financial system. The cash flow cycle begins and ends with the movement of monetary flows; money circulation at enterprise is the main link in the process of capital circulation.

Based on the volume of production and its efficiency, the size, composition, and structure of enterprise's financial resources are stipulated determining the designated purpose of monetary flows. In its turn, their reproductive function, characterized by solvency, liquidity and financial stability of enterprise, depends on the amount of monetary flows in the formation of the structural sources of financial resources [4].

Equity capital of enterprise characterizes the total cost of assets in monetary, tangible and intangible forms invested in the formation of its assets. That is why the first stage of financial resources' formation depends on the chosen organizational-legal form, namely the determining of equity capital structure (statutory structure) according to its elements during enterprise's establishment or reformation. Structural construction of equity capital can be represented by its two main elements: registered and share capital, with defining the role of monetary flows for each element in the formation of financial resources.

At the same time, equity capital is the basis for the beginning and continuation of economic activities at any enterprise, one of the most important indicators because it performs the functions of detecting and regulating financial resources:

- the share of private entrepreneur or each partner in the assets of enterprise;
- the degree of influence on the enterprise's activities;
- the degree of influence on the distribution of financial results;
- the degree in financing risky investments;
- the share at distributing property in case of enterprise liquidation.

Investing depends on the following main factors: the tasks of enterprise; diversification of the production process; introduction of new technologies.

The investment process envisages the corresponding stages of monetary flows' movement and estimation, consisting in pre-investment determining the cost of investment project (supply of money), investment – the income of monetary flows, post-investment – the assessment of monetary flows in the investment project.

The system of enterprise's management of invested monetary flows is based on an assessment of their efficiency because the possibility of implementing an alternative investment option and its efficiency on the whole depends on how objectively and accurately the evaluation is conducted.

The process of implementing the main objective in invested monetary flow management is aimed at ensuring the sufficient investment support of high development rates of enterprise's operating activity. This task is implemented by determining the need in investment volumes to solve strategic development targets of enterprise operating activity according to its separate stages, high rates of expanded reproduction of fixed assets, formation of an efficient and balanced investment program for a future period.

The invested projects, intended for implementation, which are part of the enterprise's investment program must be performed as soon as possible based on the following reasons: first of all, high rates of investment project implementation contribute to accelerating economic development of enterprise on the whole, besides, the sooner a particular investment project is implemented, the faster is the additional enterprise's net monetary flow in the form of net investment income and depreciation; accelerating the implementation of enterprise investment program reduces the terms of using credit resources (particularly for those investment projects, which are financed by attracting borrowed capital); and finally, rapid implementation of investment projects that are part of enterprise's investment program contributes to decreasing the level of investment risks, generated by changing the conditions of investment market, deteriorating the investment climate in the country, inflation, and other factors.

The financial-credit mechanism of establishing and developing production in agrarian sector is characterized by the process of monetary flows' influence on reproductive parameters in the branch, which is manifested by ensuring the formation of financial resources and enterprise focusing on achieving the optimal results of its activity [2]. The necessity of crediting is attracting monetary flows concerning enterprise capital investments connected with the re-equipment of its production structure and formation of fixed assets. Consequently, agrarian processing enterprises should direct the movement of attracted monetary flows at the formation of material-technical base with further development of the main activities.

The movement of money, its speed and scale determine the efficiency of enterprise financial system on the whole. Enterprise's monetary circulation, turnover of the whole capital begins and ends with the movement of monetary flows. Therefore, the movement of monetary flows is the main element in forming the financial resources, the process of the capital circulation. Financial resources are formed before starting

enterprise's activities, creating equity capital with further investment to ensure production-economic activities, expansion and development of production. As a result of this process, the enterprise is able to be engaged in producing and marketing products to obtain incomes. Monetary flows of enterprise function as corresponding monetary funds, as a part of money for designated purposes. Ensuring economic activities with necessary financial resources and the process of expanded production are conducted through monetary funds: financing the sources of financial resources (the initial stage); manufacturing products; payment relations; economic incentives.

Financial regulation takes place through a definite system of instruments affecting the financial activity of enterprise. Consequently, internal and external impacts of financial instruments influence on the formation of financial resources are distinguished.

The external influence is carried out through the system of government support of agrarian processing enterprises in the form of budget loans, subsidies, tax rates and fees with the mechanism of their execution [1]. This part of the financial mechanism does not depend on enterprise's internal efforts must be accepted as a condition of the external environment, to which it is necessary to adapt in the process of economic activity.

The internal financial mechanism of forming financial resources is determined by the forms, methods, and instruments used by enterprise in its activities. Therefore, this part of the financial mechanism requires special attention as to its organizing and functioning.

The optimal volume of monetary flows during the formation of enterprise's financial resources depends on the result of using this financial mechanism. Moreover, separate elements as a part of the internal financial mechanism with their methods and instruments of influencing certain aspects of the financial-economic activities of commodity producers based on balancing monetary flows are suggested to be distinguished: the mechanism of forming the sources of financial resources, planning and budgeting.

From the viewpoint of creating conditions for the continuous reproduction process, cash cover is an important element of enterprise's financial mechanism. Cash cover of the reproduction process is covering reproduction expenses through the formed sources of financial resources accumulated by commodity producers. The forms of cash cover are self-financing, crediting and government financing, and the mechanism instruments are the composition and structure of its sources. They determine not only the policy of financing economic activity, but also affect the financial results of its activity.

However, there are certain factors that affect the volume and structure of enterprise's financial resources. These factors include: the form of ownership and organizational-legal form of enterprise, branch attribute, purpose and tasks of financial-economic activity during a definite period of time, and also the internal financial policy of agrarian processing enterprises [5].

The structural formation of financial resources' sources affects the balance between financial stability and financial risk of enterprise activity. Thus, based on the effect of financial leverage, there is a definite dependence between the proportion of attracted money in the structural construction of financial resources and profitability of equity capital. The larger is share of attracted money, the higher is the profitability of equity capital. Consequently, the enterprise has to balance between these factors, which affect the financial results of its activity.

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THE FORMATION OF COMMODITY CREDIT LIMITS FOR THE BORROWING ENTERPRISES

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Commodity credit for enterprises is one of the effective tools for promoting products and rational use of financial resources. It is usually a short-term credit, since it serves the process of purchasing raw materials and the sale of final products, stimulating and accelerating it, and reducing the stay time of advanced capital in a commodity form. The terms and amount of commodity credit depends on a number of factors: the type and degree of shortage of raw materials' and final products' commodity stocks; the magnitude of their accumulation; the cost of credit; the financial potential of counterparties; the trust and confidence between them; the development of commercial loan market, etc. All of these complicate the peculiarities of its practical appliance. As to the essential characteristics of the «commodity credit», there exist many different definitions of this category today. Thus, I. A. Blank notes that it «is a form of wholesale sales of products by its seller on deferred payment terms, if such a deferral exceeds the usual terms of bank settlements» [2, p. 335]. The given definition is dissonant with the notion of commodity (commercial) credit. The dictionary of financial terminology notices, that it is a loan (credit), which is provided by one acting entrepreneur to another in the form of selling goods with a deferred payment, under the obligation of the debtor (buyer) to repay both − the amount of the principal debt and interest accrued, within a certain period [16].

After analyzing modern views on debt and credit, V. S. Belozertsev came to a conclusion that commodity credit – «is a complex of organizational, economic and financial relations, which occur in the process of selling goods (works and services)

and /or their movement through the trading chain, begin at the time of making a decision on sale of goods (works and services) with deferred payment, and ends with the full repayment of debts to debtors» [1, p. 62].

So, to make a decision on the sale of products with deferred payment or its conducting by the buyer during the period, stipulated by the contract after the seller's invoice, it is necessary to know the limit of commodity credit. Scientific literature [2; 17; 5; 7; 14; 6] provides different methods for determining the limit of commodity lending between enterprises. Let's analyze the main ones.

1) Own equity ratio which, according to different sources can vary from 10% to 20%, and in some countries and in some countries reaches up to 30-40% [6, p. 20; 17, p. 142]. There is no clear justification of the percentage value in practical use of this method. In this case, the amount of the borrower's assets can significantly affect the amount of the limit, as the same amount of limit may be acceptable for some enterprise, but somewhat too large for other. It is easy to imagine a situation when LLC «Globinsky meat processing plant» sells its products not only to its own trading network, but also to the regional dealers.

Financial indicators of dealers are much «more modest» than the similar indicators of the manufacturing enterprise. If the manufacturing enterprise wants to give a commodity credit (loan) to such buyers, then a question immediately arises about the amount (the size) of such a loan. It is quite clear that 25% of the manufacturing enterprise's equity may be excessive for a single regional dealer. Most likely, the dealer will simply not be able to fully and in time repay the commodity loan. That means the manufacturing enterprise will look for another approach to determine the amount of limits for it.

2) Limit, depending on international rating. The last one is set up by international rating agencies (such as, Fitch IBCA, Moody's, S&P, etc. [15]). International ratings in Ukraine have the enterprises which need external borrowing (at the international currency markets). Eurobonds, syndicated loan, etc. can be the tools of such borrowing. Therefore, the rating is a measure of the enterprise's credibility (creditworthiness). It remains only to establish a match between the rating and the amount of limit. The opportunity of it is discussed in the work [6]. As an example, the author cites the scale of compliance of the borrower's rating to the amount of limit (table 1).

Under this calculation method, it is proposed to limit the amount of limit to the size of the borrower's assets and equity capital. Consequently, according to this method, the limit is calculated by the following formula:

$$L = MIN\{L_r; 20\%K; 5\%A\}$$

where L – estimated amount of limit; Lr – limit based on rating, according to tab.1; K – amount of the borrowing enterprise's equity capital; A − borrowing

enterprise's balance currency value.

Table 1

The compliance of the borrower's rating to the amount of limit [6]

International rating	Credit limit, ths. USD
AAA	25 000
AA	15 000
A	10 000
BBB	5 000
BB	1 000
B	500
CCC	100
CC	25
C	0
D	0

The advantage of this method is the ease of its use. If the enterprise has an international rating, it will be easy to determine the amount of limit, using the scale of credit ratings (see tab. 1).

The method includes four criteria: the size of the borrower's assets; its financial sustainability; potential borrower's quality management; general state of the economy. At the same time, the last three points provide position within the international rating.

However, there are a number of complications in practical use of this method, expressed by six following disadvantages: a) only large commodity enterprises can obtain such a rating; b) the connection between the size of the borrowing enterprise and the amount of limit is absent. Although author [6] tries to solve this issue by introducing two restrictions: 20% of equity capital and 5% of the balance currency. However, the work does not justify these restrictions; c) the calculation of limit, based on international rating system (Lr) is also absent. The authors propose an upper border of the limit based on a rating of 25 million USD. However, again, the work does not contain the justification for such calculation of the amount; d) connection between the international rating and the rating of a country. For example, due to the economic crisis of 2014−2018, all leading rating agencies have lowered the sovereign rating of Ukraine from BB to B (and S&P has lowered it to CCC). A rating of the resident enterprise of Ukraine can't be higher than the sovereign rating of the country. Accordingly, the ratings of all entities in Ukraine have also been lowered; e) in a situation when ratings of a country its enterprises are constantly decreasing, and investing in the economy by foreign companies has virtually stopped, some Ukrainian enterprises have begun to abandon the services of rating agencies. In addition, supporting the rating is an «expensive pleasure» (according to «Business» newspaper

[4, p. 31] the cost of supporting the international rating is about 100 thousand USD per year). This further complicates the calculation of the limit, using this method; f) this method does not take into account the financial capabilities of the crediting enterprise. It is possible to imagine a situation, when the enterprise-buyer (borrower) is larger than the company-seller (the creditor). So, the amount of the loan may be small for the borrower and too large for the lender (creditor).

3) The total amount of commodity credit is defined as the possible amount of current assets, directed to receivables for commodity (commercial) and consumer credit:

$$CA_r = \frac{VS_c \bullet K_{c/p} \bullet \overline{PCC} + \overline{DP}}{360}$$

where: CA_r – required amount of current assets (working capital), sent to receivables; VS_c – planned volume of sales of goods on credit; $K_{c/p}$ – coefficient (ratio) of cost and product prices, expressed in decimal fraction; $\overline{PCC}$ – average period of granting credit to customers, in days; $\overline{DP}$ – the average period of delay in payments for a given credit, in days» [2, p. 350].

The method includes only one criterion from the complete list of criteria for determining the limit: the planned volume of sales in terms of payments' postponement. Such method of calculating the limit will be useful to the enterprise for periodic planning of expenses and incomes. However, its disadvantages are: a) it does not involve calculating the limit value for each particular counterparty; b) the planned volume of sales of products in credit, which is included in the calculation of limit as a previously known value requires, in fact, a very careful and thoughtful calculation. On the one hand, it is quite profitable for the management of an enterprise to sell all products on credit, so it would not depend on the stock, (this especially applies to perishable products). But on the other hand, an enterprise needs its current assets (so called working capital), and if all products will be sold on credit, the enterprise, due to lack of it, will not be able to produce products further. Thus, in practice, calculation of the planned volume of sales on credit at minimum, requires explanations, and at maximum – a separate method of calculation.

4) Limit is an average for quarter revenue with correction coefficients. Method proposed in [3] consists of the following: limit is defined as the sum of average quarterly earnings, adjusted by certain coefficients:

$$L = BL \bullet K_g \bullet S$$

where: L – limit of credit operations; BL – base limit, defined as the average

quarterly amount of proceeds from sales and growth of equity; K_g – coefficient (rate) of grows, which is the product of the growth rates of sales revenue and the growth of equity, and is within range of [1...1,5]; S – synthetic coefficient, obtained as a probability of non-payment on the basis of the probability of non-payment on the quantitative and qualitative indicators (60% of the quantitative and 40% of the qualitative indicators).

This method is a comprehensive approach to determining the amount of limit of the borrowing enterprise, analyzing both – quantitative and qualitative indicators. It includes four criteria of the complete list of criteria, which are required for calculating the limit of commodity credit: the amount of the borrower's assets; its financial sustainability; its management quality; relationship between the borrower and the creditor.

The disadvantages of this method are: a) unreasonable value of the Kg indicator as a coefficient (rate) of growth. Because, cash inflows can grow and decrease over certain period of time, and this coefficient can only increase the final amount of the limit; b) while calculating the scale for qualitative indicators, the value of the step ranges from 75 points for classes 9, 8 and 7, to to 35 points for all other classes (while for the quantitative indicators the step constantly was 9 points). Such gradation is unreasonable; c) the list of quantitative indicators does not include those, that would characterize the dynamics of the cost of production, which could affect the final results of the calculations; d) the article [7] the methodology is not fully described: it does not contain the description of quantitative indicators' calculation (despite the fact, that qualitative indicators are fully described).

5) The method of residual value, proposed in [14]. It consists in following: 8 items are distinguished from the financial statements of an enterprise, and get added, according to the following formula:

$$L_b = DP + NP + CS + R + P + FI + MF – TP$$

where: L_b – limit of credit, DP – deferral of payments to suppliers; NP – net profit in the annual calculation; CS – sales of commodity stocks (calculation requires 70%, 40% or 10% depending on the liquidity of stocks); R – receivables (30%, 20% or 10% for calculation, depending on the quality of the debt); P – payables (calculation requires 30%, 20% or 10%, depending on the relationship with the creditors); FI – financial investments (40%, 25%, 10%, depending on the liquidity of the investments); MF – money funds; TP – tax payments.

It is an easy way to calculate, as it also relies on the ability of the borrowing enterprise. This method includes four criteria from the complete list of criteria for determining the commodity credit limit: the amount of the borrower's assets; its financial sustainability; its management quality; regulation requirements.

However, it has a number of disadvantages: a) the author [14] does not provide calculations for the density of assets and liabilities involved in it; b) expert definition

of CS, R, P and FI indicators, included in the calculation, significantly reduces the scientific value of this technique, as different experts may have different views on the same problem. Also sometimes it is difficult to figure out the quality / liquidity of an asset, due to the lack of complete information (for example, because of the great amount of commodity stocks or a large number of the debtors of an enterprise); c) the amounts of delays in payments (deferrals) and payables are essentially the same sum, which can be delayed by suppliers for a certain period. Consequently, the same quantity is included twice in the final amount of limit.

For the practical use of residual value method, it should be modified. First, we propose to replace the net profit quantity with EBITDA.

EBITDA (Earnings before Interest, Taxes, Depreciation and Amortization) – financial indicator, equal to the amount of profit before deducting taxes, interest payments and depreciation from it [3, 18]. It shows the profitability of the main activity of an enterprise. Besides, it is not affected by the credit burden, the difference in the methods of depreciation and revaluation of assets accruals. The indicator is calculated by the following formula [3]:

EBITDA = NP + IT - ITR +EE-EI + IP - IR + AMR

where: NP – net profit; IT – income tax; ITR – income tax return; EE – extraordinary expenditures; EI – extraordinary income; IP – interest paid by the enterprise; IR – interest received by the enterprise; AMR – amortization.

All indicators of the EBITDA «flow» should be taken not in the annual (quarterly, monthly) calculation, but for the credit period. Otherwise there will be a discrepancy between the purpose of the calculation and the abovementioned indicators. The purpose of calculating the limit is to reduce the risk of non-return the commodity credit, and to increase the quality of receivables.

Therefore, it is necessary to predict the EBITDA indicator for the period of credit. Secondly, in the deferral of payments, it is necessary to replace the net revenue value by the cost price of sold products, because the deferral of payments should evaluate the relationship with suppliers, the value of which is shown by the «cost price» indicator. This indicator is formed with a «+» or «–» sign, depending on the conditions of the supplier (in case of prepayment, there should be a «–» sign used before the indicator of the cost price of the sold product).

The indicator of payables should be withdrawn from the formula as it shows the amount of debt to the creditors at the moment. And the indicator of the cost price of sold products reflects the possibility of an increase in the amount of payables during the period of their turnover (K) on which payments to suppliers can be delayed, without getting penalties for a commodity credit in response. A. Yu. Novichikhin proposes to set a period of payables' turnover at the rate of: 7, 14 or 21 days [14]. The discrete values suggested by the author are not explained in any way, and their choice is determined by a subjective assessment of the relationship between borrowers and

their suppliers at the discretion of the expert who makes the calculation.

Thirdly, the method of residual value offers 70, 40 or 10% for calculating the returned commodity stocks (CS) depending on their liquidity, and it can be 30, 20 or 10% for calculating receivables (R), depending on the quality of the debt. The financial investments' indicator is calculated in the amount of 40, 25 or 10%, depending on their liquidity.

Let's mark the interests by coefficients of liquidity – K2 for commodity stocks, K3 for financial investments and K4 for the quality of receivables. Then formula (4) will look as follows:

$$L_b = \pm AC \cdot K_1 + EB + CS \cdot K_2 + R \cdot K_3 + FI \cdot K_4 + MF - TP - C_s P$$

where: L_b – borrower's limit; AC – average cost; K_1 – 21, 14 or 7 days, depending on the relationship with suppliers; EB – EBITDA indicator for the credit period; CS – the value of commodity stocks; K2 – 70%, 40% or 10%, depending on their liquidity; R – receivables; K_3 – 30%, 20% or 10%, depending on their quality; FI – financial investments; K_4 – 40%, 25% or 10%, depending on their liquidity; MF – money funds; TP – tax payments; $C_s P$ – payments for servicing the debt for already received credit, for the duration of the planned credit.

The coefficients K1–K4 in the formula (1.6), at first, have no justification for their values, and secondly, the choice of a specific value is conducted by experts, with a large amount of subjectivism. We propose to justify the K_1–K_4 coefficients, basing on the following considerations. There is already an indicator that characterizes the period of delay payments to suppliers for K1 in the scientific literature. It is a period of payables' turnover [9, p. 383].

Thus, for a more precise definition of K_1 it is necessary to find it as the difference between the average sectoral period of payables' turnover and the period of payable turnover, and the period of turnover:

$$K_1 = \overline{P_p} - P_p$$

where: $\overline{P_p}$ – average period of payables' turnover; Pp – period of borrower's payable turnover.

If the period of borrower's payable turnover is higher than the average, it means that borrower already has the maximum delay in payments, and it is quite unlikely that suppliers will provide him an additional payment delay. In this case, we must accept that $K_1 = 0$.

There is a «±» sign before the product of a value and a K1 coefficient in formula (6),

which may be explained by the conditions of the suppliers. If in payments with suppliers the commodity credit with a delay and installments, as the varieties of contract of sale, then it is necessary to apply a «+» sign while calculating the limit, if there is an overpayment then the «–» sign. But after adding the period of payable's turnover (Pp) to the calculation (6), there can not be the prepayment in this case anymore, as prepayment is characterized by another item in the balance sheet – receivables. So while calculating the borrower's limit, it is required to use this product only with a «+» sign.

The K_2 coefficient determines what amount of borrower's commodity stocks may be sold over the period, which is equal to the term of a commodity credit.

The problem of selling the commodity stocks is an answer to the question of how much money the enterprise will receive for this product, if it sells it over the period, equal to the term of a commodity credit. That means, that K2 coefficient is also an attempt to somehow discount the indicator of commodity stocks in case of a fall in the value of goods. For example, if the given product is meat and meat products, the prices for them range from a certain average up and down over a certain period of time. Theoretically it is possible to sell meat and meat products, when the prices for them will be the highest and to receive more, but due to caution, for determining the credit limit it is necessary to consider only the lowest value in price fluctuation. Thus, this coefficient will be a lowering factor. The greater the variability (volatility) of prices, the higher the probability of price changes, therefore, the lower the given coefficient will be. Volatility is expressed by the standard deviation coefficient [3]:

$$\sigma = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(\bar{x} - x_i)^2}$$

where: σ – standard deviation; x, – random variable; $\overline{x}$ – average value for a random variable x_i; n – number of observations of a random variable.

An indicator that shows the measure of the relative spread of a random variable is the coefficient of variation, which is calculated according to the following formula [3]:

$$CV = \frac{\sigma}{\bar{x}}$$

where CV – coefficient of variation; σ – average standard deviation of the price for goods; x – the average price for this good.

Formula (8) shows what part (percentage) of the average value of a random variable (price of a product) is its average spread. In contrast to the standard deviation, it measures not the absolute, but the relative measure of the variation of the characteristic values in statistical totality.

Since for calculating the commodity credit limit, it is necessary to know what amount of commodity stocks can be sold at the end of the credit, and the coefficient of variation shows the degree of the random variable dispersion, which needs to be discarded, as was written above, than K_2 coefficient will be calculated as the difference between 1 and the coefficient of variation:

$$K_2 = 1 - CV_{cs}$$

where CV_{cs} – coefficient of variation of the commodity stocks price.

But the CV_{cs} indicator, calculated by the formula (8), characterizes fluctuations of only one type of commodity stock. And in practice it is possible that commodity stocks make up more than one type. To solve this issue, we need to use the weighted average for CV_{cs} indicator:

$$CV_{CS} = \frac{\sum_{i=1}^{m} CV_i \bullet CS_i}{\sum_{i=1}^{m} CS_i}$$

where CV, – coefficient of price variation for the i-type of a commodity stock; CS – amount of the i-type of commodity stock; т – number of types of a commodity stock. So, the sum of т types of commodity stocks CS, will make CS_i, if we add (10) to (9) we will receive:

$$K_2 = 1 - \frac{\sum_{i=1}^{m} CV_i \bullet CS_i}{\sum_{i=1}^{m} CS_i}$$

However, theoretically, the coefficient of variation may be greater than 1. It indicates an extremely high risk of price fluctuations. In this case, we should accept that $K_2 = 0$.

It also raises the question of a period, we take the sample of prices for, because if we take a sample for a few years, the price fluctuations can be very significant, meaning that the standard deviation will also be quite large, and, correspondingly, the K_2 coefficient will always be equal to zero. Such a situation would lead to an unjustified underestimation of the allowable amount of a commodity credit. So, a sampling of prices for the selected type of product should be taken for the period,

equal to the period of credit.

The K_3 coefficient shows which part of the receivables can be realized at the end of the commodity credit term. For its determination method 5 proposes to choose one of three options: 30%, 20% or 10% [14].

Receivables in calculation of the commodity credit limit mean how much money from the receivable will be returned before the end of the credit period. So, while calculating the commodity credit limit, it is necessary to consider only those receivables, the return period of which is less than the term of a commodity credit.

There also exists a receivable that, for a number of reasons, does not get returned on time (overdue receivable). That means that those receivables, which will be returned by the end of the commodity credit, will be less by the amount of overdue receivable. To calculate the share of an overdue receivables, there is an indicator – $S_{OR.}$

To calculate the K_3 coefficient, it is necessary to take the share of receivables, the term of which is less than the term of a commodity credit, and the indicator, reversed to S_{OR}, which shows the share of non-overdue receivables:

$$K_3 = \frac{R_L}{R}(1 - S_{OR}) = \frac{R_L}{R}(1 - \frac{OR}{R})$$

where S_{OR} – share of overdue receivables;

R_L, – receivables, the return period of which is less than the term of a commodity credit, R – total receivables; OR – overdue receivables. If we take the product of the receivable and the coefficient K_3 from the formula (6) and put it in (11), we receive its third component:

$$R \bullet K_3 = R \bullet \left(\frac{R_L}{R}\right)\left(1 - \frac{OR}{R}\right) = R_L\left(1 - \frac{OR}{R}\right)$$

The K_4 coefficient shows what amount of financial investments may be sold at the end of a commodity credit period.

This coefficient is similar by its nature, therefore, its calculation must be done the same way. The random value that needs to be characterized is the cost of financial investments, the indicator of which is the stock market index (such an index in Ukraine can be the PFTS index). As there is only one random variable, which characterizes the financial investments (stock market index), then while calculating K_4 we should use (9):

$$K_4 = 1 - CV_{sm}$$

where CV_{sm} – a coefficient of the stock market index variation, which is

calculated on the basis of a set daily data of the stock market index.

Similar to calculating K_2, if K_4 will be less than 0 (the coefficient of variation greater than 1), it evidences of the excessive variability of the stock index relative to its average value, indicating a high probability of a change in this index. In this case, K4 must be equal to 0. Putting the expressions K_1–K_4 into the formula (6), we will receive the limit of the commodity credit for the borrowing enterprise.

$$L_b = AC(\overline{P}_p - P_p) + EB + CS\left[1 - \frac{\sum_{i=1}^{m} CVi \cdot CSi}{CS}\right] + R_L\left(1 - \frac{OR}{R}\right) + FI \cdot (1 - CV_{sm}) + \\ + MF - TP - C_s P$$

where: L_b – borrower's credit limit; AC – average annual cost; $\overline{P}_p$ – average sectoral period of payables' turnover; P_p – period of borrower's payables turnover; EB – EBITDA indicator for the credit period; CV_i – coefficient of the price variation for the i-type of a commodity stock; CS_i – the value of the i-type commodity stock; m – number of types of commodity stocks; R – total receivables; RL – receivables, the return period of which is less than the term of a commodity credit; OR – overdue receivables; FI – financial investments; CV_{sm} – coefficient of the stock market index variation; MF – money funds; TP – tax payments; C_sP – payments for servicing the debt for already received credit, during the planned credit period.

The abovementioned procedure for calculating the commercial credit for a borrower is given without taking into account the principle of time value of money. To calculate the future value of the indicator, scientific literature [10, p. 52; 12, p. 16] proposes to use the following formula:

$$FV = PV \times (1 + r)^n,$$

where: FV – future value; PV – present value; r – annual interest rate; n – term in years.

Thus, the present value (PV) of the financial indicator is recommended to be determined by discounting for a certain percentage:

$$PV = \frac{FV}{(1 + r)^n}$$

Considering that determination of the borrower's credit limit includes eight indicators, it is necessary examine and set such values as: cost price, EBITDA, commodity stocks, receivables, financial investments, the amount of money on

the balance (money funds), tax payments during the credit period, payments for servicing the debt for already received credit.

Considering that cost price and commodity stocks increase over time due to inflation, according to formula (15), – their indices need to be increased according to the consumer price index. For the cost price index C we offer the following calculation, taking into account the future value (16):

$$C' = C \cdot (1 + i_{cp})^n,$$

where: C' – the increased cost price; C – cost price; icp – annual consumer price index; n – term of a commodity credit in years.

For the index of commodity stocks the calculation of the next type, considering (1.16):

$$CS' = CS \cdot (1 + i_{cp})^n$$

where: CS' – accrued (increased) value of commodity stocks; CS – the value of commodity stocks; i_{cp} – annual consumer price index; n – term of a commodity credit in years.

If to take into account the future value of EBITDA indicator, there are a couple obstacles to use the formula (16):

1. The formula (16) implies that indicator will always increase, but as it known from the practice, such indicator as profit (including EBITDA) is not always rising. It may decrease or remain on the same level for a long time.

2. There are always difficulties in finding the interest rates, under which the increase of this indicator will be carried out, as indicator, which characterizing the interest rate should affect the EBITDA (as, for example, the rate of inflation affects the cost price or the value of commodity stocks). However, neither inflation nor the KIBOR rate do not affect the EBITDA indicator in a way, it could be unconditionally used for a constant increase.

Considering such features of EBITDA, this indicator is proposed to be predicted with the help of a periodic function, as economic cycles, seasonality of sales, life cycle of goods or services and other factors can significantly influence the economic performance of an individual enterprise. Frequency of economic processes is caused by a change in the vital activity of people during the day, week, month, and year (there also are greater periods of cyclicity). Therefore, there is a task of selecting such kind of function, which in its form would correspond to the basic forms of periodic and nonperiodic dependencies of economic processes. The second task is to determine the coefficients of the selected function by statistical data's sampling.

Dependencies, existing in the economy have not only periodic functions but also exponential and power functions. Therefore, the following formula was chosen:

$$Yc = Ax^B + C(1 - e^{Dx})Sin(Ex^F + G) + H$$

where: x – an argument, y_c – calculated function, A–H – counterparties, e – the basis of the natural logarithm.

The implementation of the selected function (20) is complicated by the fact that there are no such mathematical transformations, which would allow to linearize, and then receive the value of the A-H constants by the regression or the least squares methods [11]. Therefore, an optimization approach was used, which consists in following:

1. The arbitrary values are set for the function constants.

2. Calculate the value of y_r (20) for all values of the argument, using arbitrary values of the constants;

3. For each value of the function find $(y_c\text{-}y_f)^2$, where y_a – actual value of the function, obtained using statistical data.

4. Solve the optimal problem with the function:

5. $$\sum_{i=1}^{n} \frac{(y_{ci} - y_{ai})^2}{y_{ci}} \to 0$$

where: n – the size of a statistical sample. The sought constants will be the parameters that change.

So, let's use the proposed approach to find the A-H constants:

1. Set the arbitrary constant values of A-H.

2. Find the y_c by the formula (20).

3. Find $(y_c\text{-}y_c)^2$, where ya – actual value of the function, obtained using statistical data.

4. Solve the optimal problem with the function (21).

The first calculations using the MS Excel Solver function already showed that E and G constants in (20) are defined as zeros in the case when the amplitude of the sinusoid is less than the average value of the function by 3-20 times.

Therefore, in order to increase the accuracy of the calculation, it is recommended to set the constraint limit according to the following rule:

1. The values of the argument – Δx are located on the graph, resembling a sinusoid, which will be based on statistics. Then it is necessary to set the following restriction for the constant E:

$$E \le (0{,}5 - 1{,}5)2\pi / \Delta x_1$$

2. The initial values of constants B and F are recommended to be set equal to 1; Constants H – to average statistical function of a value; constant D – 0.05; A = 0.

3. The constant C is determined from the maximum amplitude of Δy, the part of the graph, defined as sinusoidal, and has the following restrictions:

$$C \le (0{,}4 - 0{,}6)\Delta y$$

Besides three above-mentioned restrictions for a forecasting function, we use the so-called auto-regression model [8], i.e. the dependence of the indicator of its previous values. Since formula (20) does not give the needed result if any number from the statistical sample has a negative value (the constants B and F can be fractional, and therefore, no argument value can be negative, as it gets found through the logarithm), the EBITDA indicator may have negative values. So, to the values of statistical sample a number that is greater than the negative value of the argument for the most modulo must be added.

From the results of the conducted research carried, we may draw the following conclusions:

1. The proposed optimization algorithm enables to build the function of cyclic economic processes by any pre-selected formula.

2. The proposed procedure allows to build functions of a the different by nature economic processes.

So, for EBITDA indicator, the formula (20) for forecasting values will look as follows:

$$EB' = A \cdot EB^B + C(1 - e^{D \cdot EB}) Sin(E \cdot EB^F + G) + H$$

where: EB – value of EBITDA for previous periods, EB' – forecasted EBITDA, A-H – constants, e – the basis of the natural logarithm.

Now we need to calculate the future value of money funds (MF') from the formula (15). Let's use the formula (16) for this. As a rule, money funds are located on the current account of the enterprise, which receives them from the bank. Thus, it is possible to increase this indicator under the average rate on deposits of legal entities (terminable and on demand). Taking into account the average bank interest, the formula for money funds will look as follows:

$$MF' = MF \cdot (1 + i_b)^n$$

where: MF' – increased value of monetary funds; ib – average bank interest on the current account in annual calculation; n – term of a commodity credit in years.

While calculating the future value of financial investments, we use the following formula (16).This indicator depends on fluctuations of the stock market index. However, in the formula (15), it is already multiplied by the coefficient, which characterizes the stock market index. So, this indicator does not require an increase.

We can use formula (16), while calculating the future value of receivables. The receivables should be increased by the percentage for which a commercial credit was given. Considering this, a formula for receivables will look as follows:

$$R' = R * (1 + i_k a)^{\pi}$$

where: R' − increased value of receivables; R – value of receivables; i_k; a – annual share of receivables (if the commodity credit was given without an interest, then i_b; b ~ 0), π − term of a commodity credit in years.

Tax payments and debt service payments do not require increasing, as they reflect the exact amount that you will need to pay over a certain period. To calculate the limit, these two indicators should reflect the amounts that the borrower needs to pay in a period that coincides with the term of the commercial loan.

Consequently, after introducing the changes we propose, to increase the values of its parameters, formula (15) will look like:

$$L = AC'(\bar{P}_p - P_p) + EB' + CS'\left[1 - \frac{\sum_{i=1}^{m} CV_i CS_i}{CS}\right] + R'_L\left[1 - \frac{OR}{R}\right] + FI(1 - CV_{sm}) + MF' - TP - C_sP$$

where: L – borrower's limit; AC' – increased average annual cost price; $\overline{P}_p$ – average sectoral period of payables' turnover; Pp – period of borrower's payables turnover; EB' – forecasted EBITDA indicator for the credit period; CS' – increased value of commodity stocks; CV_i – coefficient of price variation for the i-type of commodity stock; CS_i – the value of the i-type of a commodity stock; m – number of types of the commodity stocks; R – total receivables; R'_L – increased receivables, the return period of which is less than the term of a commodity credit; OR – overdue receivables; FI – financial investments; CV_{sm} – coefficient of the stock market index variation; MF' – increased (accrued) money funds; TP – tax payments; CsP – payments for servicing the debt for already received credit, during the planned credit period.

After determining the total amount of the borrower's limit, this amount shows how much money can be obtained in the future (after the expiration of the term of

a commercial credit). To find the present amount, according to the formula (17), it is necessary to make a discount at the rate at which the lender (creditor) provides a commercial credit. Thus, we receive an amount that can be given right now, so that the borrower will repay it over a certain period of time, and pay interest on it at a certain rate:

$$L'_b = \frac{L_b}{(1+r)^n}$$

where: L'_b – discounted amount of borrower's credit limit; L_b – amount of borrower's credit limit; r — interest rate of a commercial credit; n – the term of a commercial credit in years.

In addition to finding the maximum amount of commercial credit limit, it is also necessary to find the maximum term, for which a commodity credit may be given.

The term of a commercial credit can be calculated, using an optimization model, the main task of which is to find extremum (maximum or minimum) of a target function with restrictions on n variables in the form t linear inequalities or equations [11]. That is, the term of commercial credit will be the variable of the target function of this optimization model.

To determine the term of a commercial credit, besides finding the borrower's limit ($L_в$) in formula 1, it is also necessary to determine the creditor's limit (L_c). We have chosen an option where the creditor's limit is determined by the formula:

$$L_c = K \square E_c$$

where: L_c – creditor's limit; E_c – equity capital; K – risk adjustment coefficient. Considering that, according to formula 1.28, the amount of borrower's credit is getting discounted (L'_b) under the term of a commodity credit, this indicator becomes a target function.

However, to solve the task of the optimization model, it is necessary to find the extremum of the target function, i.e. to set the value to which the given model strives. As it was already mentioned, this may be the maximum or minimum of the target function.

From an economic point of view, it is clear that for L'_b minimum and zero are the same, as the amount of the limit can not be less than zero. However, zero, as the value to which strives the target function, is not desirable, considering that in such a case a crediting company should not start commodity crediting at all, if even before the start of crediting, it decides to limit the amount of a credit to zero. Consequently, it contradicts the objectives of the crediting company.

It is also not recommended to choose a maximum for this target function (out of caution): it is not necessary to maximize the amount of limit for the crediting company, since the probability of non-return of a commercial credit significantly increases.

If , due to economic reasons, it is not possible to direct a target function neither to the maximum nor to its minimum, it means that the function must be directed to a certain value that does not depend on either the target function or its variable. The value of Lc should serve such an indicator, since, firstly, it corresponds will the abovementioned conditions and, secondly, it corresponds to a complete list of criteria for the commercial credit limit.

The target function of the optimization model for determining the value of the commercial credit term will look as follows:

$$L'_b \rightarrow L_c$$

The value of the term of a commercial credit п, which will be obtained as a result of solving the optimization task, will reflect the borrower's limit regarding the creditor's limit, depending on whether it was bigger or smaller before the start of solving the task of the optimization model:

1) $L'_b > L_c$ means that the borrower's financial capabilities are more powerful than financial capabilities of a creditor, п shows the minimum possible credit period for this borrower.

2) with $L'_b < L_c$ – the financial capabilities of a borrower are less powerful than the creditor's ones.

As it was already mentioned, in order to solve an optimization problem, it is necessary to impose certain restrictions on the target function (30) and its variables, which consist of the economic essence of this function, its components and the variable. Since (30) is the credit limit, i.e. – the amount of money, it has to be a positive number. Besides, the term of a commercial credit can not be less than 1 calendar day. Thus, the restrictions contain the following system:

$$\begin{cases} n \geq 1/365 \\ L'b \geq 0 \end{cases}$$

where: L'b – the borrower's limit; n – the term of a commercial credit in years.

Solving the optimal task with the target function (30) and the system of restrictions (31) can be conducted with the help of simplex method, which is an analytical method of finding solutions for the tasks of optimization models [11]. This method is implemented in the Solver («Finding Solutions») function of the MS Excel.

Thus, the definition and justification of increasing indicators as part of the borrower's credit limit, the determination of the future and present value of a certain amount of a commercial credit and the terms of its provision through the use of discounting method, gives the opportunity to reduce the economic risks of both – the creditor and borrower in such form of non-bank crediting.

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GROUNDS FOR THE NECESSITY OF IMPLEMENTATION AND DEVELOPMENT OF CLINICAL RESEARCH MANAGEMENT

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At the moment, the pharmaceutical industry in Ukraine is in a leading position both in the domestic and external markets. However, international competition continues to harshly attack the national pharmaceutical market. According to the experts, about one third of medicines in the domestic market is of Ukrainian production, while the rest is of foreign one. Therefore, strengthening the competitive position of Ukrainian pharmaceutical companies on the market is a very important challenge. It is also clear that production of effective medicines is the sole possible tool to compete in this sector of the economy. And of course, this essentially depends on the quality of the clinical research.

Clinical research is a human-made research conducted, firstly, to evaluate the efficacy and safety of the medicines and, secondly, to prove the efficacy and safety of any new drug.

The clinical research is conducted directly in healthcare facilities, contract research organizations and pharmaceutical companies, following the adherence to the Good Clinical Practice (GCP). Compliance with these rules is a guarantee to the public that the rights and safety of patients participating in the study are protected, and the results of the study are reliable. Consequently, clinical research is an integral part of the process of medicines development. The clinical research is used to determine the quality of drugs, their effectiveness, as well as further to control them. In the light of the above, there are very rigorous requirements for clinical research, i.e. compliance with the ethical aspects of their implementation, as well as professional planning, organization, monitoring and management, timely

reporting etc.

Thus, the quality of medicines and their efficacy in the treatment of patients is largely affected by the quality of clinical trials. The latter, in turn, depends, to a large extent, on the proper level of planning, organization, management and control of clinical research at a particular venue. Consequently, the system of clinical research management should be formed in accordance with the standards ISO-9001:2015.

A key component of the clinical management system is the specialists involved in planning and organizing clinical research. The main requirement for them is knowledge of the basic functions of management, the skills of personnel management and relevant processes implemented within each phase of clinical research. A clinical research specialist is an employee involved in planning, organizing, conducting and controlling clinical trials of drugs, biologics or devices on behalf of an investor. The position of a specialist in clinical research, depending on the company, may sound like an administrator, steward, controller or coordinator of clinical research (or trials). So, in order to hold such a positions, the specialist should have not only professional knowledge of clinical research, but also management knowledge and skills. Thus, lets ground the necessity of developing clinical research management as a separate, specific area of the management as a whole.

The analysis of professional publications devoted to clinical research, the study of experience of the healthcare institutions, contract research organizations and pharmaceutical companies made it possible to identify and group the main factors actualizing the need for development of clinical research management nowadays.

1. Scale of clinical research.

According to official website data [1], calculation of the number of clinical studies per 100 thousand population in 2018 in Ukraine was 3,52. In particular, during the first phase 5 % of studies were conducted, during the second – 30 % of studies, during the third – 64 %, and during the fourth – 1 %. One should admit that the number of the studies conducted is small. However, at the moment there is a tendency to increase the number of clinical trials.

Meanwhile, pursuant to the information provided for on the website www.clinicaltrias.gov, the number of trials conducted in the developed European countries and the USA is much higher. In particular, as of the date, there were 14000 clinical trials registered in the USA, 1200 trials registered in Poland, while the number of clinical trials conducted in Ukraine amounted to 200 [2].

2. Increasing the number of clinical trials locations, and the need for their timely and sufficient provision with the specialists having appropriate management knowledge.

Today there are, on the average, 7 large contract research organizations (CROs) active on Ukrainian market of clinical trials (which are applicants for 40-55 % of multicentre clinical trials), as well as 38 small CROs, performing 45-50 % of clinical trials.

Each of these CROs includes at least 5 people directly involved in the planning,

organizing, conduct and monitoring clinical trials.

Domestic applicants for pre-registration clinical trials usually do not involve CROs for clinical trials. They rather have their own structural units dealing with this issue.

According to estimates, 5 major manufacturing companies (providing up to 55-70 % of pre-registration studies) and 14 small ones are working stably at the domestic clinical research market. The structural units responsible for clinical research at each of these enterprises consist of an average of 5-10 people. Thus, we can conclude that in Ukraine at least 500 people are working in clinical research as the structural unit of the domestic pharmaceutical industries and CROs and carrying out professional tasks and responsibilities related to management functions. In other words, as of the day, these specialists require professional management knowledge and education.

Estimation of the domestic testing sites involved in the implementation of clinical trials demonstrates that their number in the last 5 years varies within 500 and 800 units. At each test site, 1 to 10 clinical trials are performed. Consequently, the number of domestic specialists involved in clinical research management is ranging from 1500 to 2000 people with various background education and work experience and who haven't obtained management knowledge at the appropriate level.

3. Attractiveness of the clinical studies for professional activities and careers.

Professional activity in the clinical studies is quite attractive not only for career opportunities, but also for a high remuneration: the standard salary per year for a beginner is USD 40000 to USD 60000; while an experienced employee (with three years work experience or more) gets USD 60000 to USD 90000 per year [3; 4]. Only one circumstance (and perhaps it is a key one) encourages staff to improve their skills, including additional management knowledge. The latter is essential for professional planning, further organization, management and control of clinical trials.

4. Recognizing management as the cornerstone of qualitative clinical research.

An overview of foreign scientific publications [5-10] clearly indicates the unity of opinions concerning the fact that:

1) successful clinical studies are based on «marketing», «sales» and «permanent client management»;

2) at the implementation stage of a randomized controlled clinical study, the most complex aspect is the introduction of a number of effective management methods;

3) management of all phases and stages of clinical research is key to the overall process of their implementation.

It follows that the quality of clinical trials depends, to a certain extent, on the proper level of their planning, organizing and monitoring. In its turn, the latter depends on the specialists with appropriate management education and skills in healthcare facilities, contract research organizations and pharmaceutical companies. This is a solid ground for introducing and developing a new direction in overall

management - clinical research management.

5. There is a need for obtaining special management knowledge for qualitative clinical research.

In 2017 and 2018 there was a two-stage survey conducted regarding the need for specialists involved in clinical trials to obtain additional management education. It was conducted in two stages:

– the first – in 2017;

– and the second – in 2018.

The Department of Clinical Pharmacology and Clinical Pharmacy at the National Pharmaceutical University conducted the first stage of the study. The research leaders (64 %), research physicians (33 %), regulatory staff (42 %), and monitors (employees of pharmaceutical companies, manufacture and contract research organizations) (57 %) were involved in the survey as respondents.

The survey made it possible to establish that:

– 68,6 % of respondents considered it appropriate to obtain special management education;

– 15,7 % of respondents considered the regulatory and normative provision of these studies and the establishment of a standard operating procedures system at all stages of trials to be sufficient;

– 7,8 % of respondents pointed to the sufficiency of periodic studies by the specialists in the field of planning, organization, monitoring of and ethical requirements for clinical trials, as well as on good clinical practice and current regulatory requirements for clinical trials;

– 17,8 % of respondents stated that it is necessary to implement the above.

The second stage of the study was conducted by the Department of Management and Administration of the National Pharmaceutical University [11]. Experts from the higher education and scientific institutions (54 %), clinical institutions (39 %) and approximately 7 % of medical centres were involved in the survey. The results of the survey are as follows:

– 75 % of respondents expressed the need for additional management knowledge;

– 15,5 % – stated that there is no need in such knowledge;

– 10 % – are not sure whether the management knowledge should be required or not.

The question «Is there a need for training specialists under the program «Management of clinical research»?» was answered as follows:

– 67 % od respondents said “yes”;

– 19 % were unable to answer;

– and about 14 % indicated the lack of such a need.

Thus, the results of the study confirm the need for introduction and further development of clinical research management as a specific area of management as a whole.

6. Lack of educational programmes for educating the specialists in clinical

research management.

The leading institutions educating specialists in the field of clinical research are the UK institutions (universities of London and Edinburgh), the Netherlands (University of Rotterdam), Spain (University of Barcelona), Germany (universities of Dresden, Berlin), the United States of America (Boston Universities, Charlottesville, San Diego etc.) and Australia (University of Melbourne). So, in the United States there are 15 universities preparing the clinical research management specialists, in the UK – 6, in Germany – 4, and in Austria – 2. The students of the above universities obtain a degree as a Master of Clinical Trials (MSc), a Master of Clinical Trials (MSc «Monitoring of clinical trials») or Medical Sciences and MS (MSin).

In its turn, the study of Ukrainian higher education market in management (073) and public administration and administration (281) made it possible to establish that at least 17 universities are preparing health care management specialists. The above results of the survey give the opportunity to make the following conclusions:

1) foreign educational institutions are preparing only masters of medical sciences, masters of clinical research or masters of monitoring clinical research;

2) domestic educational institutions prepare only masters of health care;

3) none of the educational institutions in the USA, Europe or Ukraine prepare the specialists in clinical research management. This is another reason for introduction and development of a new area of an overall management – management of clinical research.

In conformity with the draft order of 1 January 2019, the Ministry of Health of Ukraine differentiated the functions of the director of a medical institution dealing with economic activities and a medical director dealing exclusively with medical issues. The directory of medical professions includes the position of medical director, working on the development of improving the quality of evidence-based medicine, the organization of patient-oriented services, the organization of professional development of personnel, assessment of the quality of medical care, etc. The director general of the healthcare institution, in particular, is engaged in strategic planning, involving the necessary financial resources, budget formation, coordination of the institution's work, analysis of the economic efficiency of the activities; organization of work and interaction within the structural units, etc.

From 1 January 2022, it is planned to separate the management functions of the director general / chief (head) of the healthcare institution in Ukraine, in particular, in contract research organizations and pharmaceutical enterprises. Thus, applicants for the position of managers, directors who do not have management education in 07 «Management and Administration» and 073 «Management», will have to extra gain it.

In the light of the above, it can be argued that changes in the concept of the Ministry of Health of Ukraine regarding the approaches to the management of health care institutions, contract research organizations and pharmaceutical companies are actualizing the development of new areas of management as a whole, namely, management of healthcare facilities and clinical research management.

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PRACTICAL LEGAL ASPECTS OF THE USE OF PUBLICLY ACCESSIBLE ROADS IN THE MANAGEMENT OF AGRICULTURE AND FOREST LAND

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In connection with the process of issuing property to churches and religious societies according to Act No. 428/2012 Coll., On property settlement with churches and religious societies and On the amendment of some laws, such as the Law On property settlement with churches and religious societies, in media appeared news about legal litigation according to which the obliged entity (in this specific case Lesy ČR) is obliged to issue the required land pursuant to the above mentioned law. The obliged entity defended the issue during court proceedings by arguing that the land is listed as a public transport structure in the land use plan, nevertheless it should be a publicly accessible road over a dam of a pond.

The authors of the chapter state that according to Act No. 428/2012 Coll., the built-up land cannot be issued because it is considered to be a part of land which, after being subject to property injustice as a result of some of the facts mentioned in § 5, was built up or part of it was built up by a building capable of separate use (hereafter referred to as the «building»), if the building was established in accordance with the Building Law and is used as well as the part of the land directly associated with the building which is necessary for the use of the building. A piece of land built by a building, which is owned by a person other than a state or a beneficiary who is directly related to it and uses it, is also considered as a built-up land. In connection with publicly accessible purposeful roads, it can be determined whether the purposeful road may in certain circumstances be a building or not or a land built by the building as a purposeful road. The aforementioned press release became the inspiration of the authors of the chapter to analyse the aggregate modifications of publicly accessible purposeful roads as one of the types of roads alongside motorways, roads and local roads, pursuant to Act No. 13/1997 Coll., On roads, as amended, necessary for the management of forest land dealing with the definition features of publicly accessible purposeful road and its legal nature, as it has and will have an impact on the decision-making of courts in the matter of the issue of property under the aforesaid law.

The authors of the chapter deal with forest roads, one of the categories of purposeful roads, because they can demonstrate the differences in the regulation of the use of public roads according to the valid legislation, comments (Gavella, 2012). According to general terminology, it is possible to define the legal status of forest roads, see (Bonifazi, Balena, Rega, 2017), the use of forest roads as publicly accessible purposeful roads, the rights of walking and driving of motor and other vehicles on the forest roads by the owners, state (Kupková, Bičík, 2016) or possibly by the authorized users of these roads and the public, i.e. by third persons who have no private-law relationship with the forest roads, express (Mikoláš, Tejkal, Kuemmerle, Leitão, Morrissey, 2017).

The aim of the chapter is to provide an overview and analysis of the current legal regulation of the use of forest roads by the public for walking and driving with motorized and other non-motorized vehicles. The chapter focuses in particular on defining the relationship between the two laws concerned legal acts, namely Act No. 13/1997 Coll., On Roads, as amended, and Act No. 289/1995 Coll., On Forests and on Amendments to Certain Acts (the Forest Law), as amended. One cannot forget the other related legal norms, which, in the alternative, help to find out the basics of intricate legal relations.

Literature review. Publicly accessible purposeful roads. Road is defined by Act No. 13/1997 Coll., On Roads, as amended, as a road intended for use by road and other vehicles and pedestrians, including fixed equipment necessary to ensure the use and safety of the ride. From the above-mentioned terminology, it is clear that purposeful road, as one of the legally defined types of roads, is primarily the roadway and its purpose is to be used by road and other vehicles as well as by pedestrians. In the public inaccessible purposeful road in accordance with Section 7 paragraph 2 of the Act on Roads, we designate a purposeful road as a road situated in an enclosed space or building that serves to the needs of the owner or operator of the enclosed space or object. This purposeful road is not publicly accessible to the extent and manner which is determined by the owner or operator of the enclosed space or object.

Article 7 (1) of the Act on Roads specifies publicly accessible purposeful roads so that the purposeful road is a road that serves to connect individual properties according to the needs of property owners, to connect these properties with other roads or to manage agricultural and forest land. The Road Act also points to the fact that, within the limits of the special regulations governing the operations on the road and under the conditions laid down by this Act, every citizen may use the infrastructure free of charge in the usual way and for the purposes for which it is intended, i.e. the general interest of use, unless special cases stipulate otherwise in this Act or the special regulation. The user must adapt to the construction and technical conditions of the affected road. The law uses the term of general use, whose prerequisites and legal implications for the purposeful roads also formulates the legal case law. The cited provision of the Act on Roads has a considerable

importance for the issue of publicly accessible roads because the user of the publicly accessible purposeful roads can be any citizen, i.e. not only the owner or user of the real estate, but also any user who is entitled to use it free of charge and no one is entitled to demand any consideration for the use of roads even through legal private law institutes. For the rights and obligations of the parties involved, i.e. the owner of the road and its user, is stated that the use of the road is limited by the legal regulations regulating the traffic on the roads, as well as by the construction and technical conditions of the road which determine the road to road and other types of vehicles according to vehicle weight and other technical parameters and dimensions. The condition of construction according to §26 of the Act on Roads determines the quality, the degree of use of the surface, the longitudinal or transverse waves, the seals which cannot be removed by routine maintenance, the bearing capacity of the road, bridges and bridge buildings or the equipment of the road. The technical condition according to the provisions of the Act on Roads sets out technical features, i.e. transverse arrangement, transverse and longitudinal inclination, width and type of directional and elevation arcs and the integration of the road into the terrain in terms of the view or altitude. The transit route uses the statute of publicly accessible purposeful road ex lege if it fulfils the legal defining features of this road. According to Section 9 (1) of the Act on Roads, the owner of the purposeful road is a legal entity or individual who is legally obliged to tolerate the free use of property by third parties in general. It cannot be inferred from the above-mentioned that the obligated person, the owner of the purposeful road, must be only a private-law entity, the owner of the purposeful road may also be state with the right of management, e.g. the organizational unit of the state, which has the right to manage it according to another entity, e.g. in behalf of the Forests of the Czech Republic, sp, Povodí Vltavy, sp, etc.

Under Section 1012 of the Civil Code, the owner has the right to dispose his property within the limits of the legal order and to exclude other persons from it when the institute of public purposeful roads constitutes interference to the property right of persons in the public interest. According to the Charter of Fundamental Rights and Freedoms, the forced restraint of the property right is possible within the public interest based on the law and for compensation. The free use of public purposeful roads is defended by the Constitutional Court in the case of sp. No. 268/2006 of 9 January 2008 as a condition in which exist a law-based public law institute which restricts the property right, which is a necessary condition of the constitutional compliance of the consent expressed by the owner. In the case of publicly accessible purposeful roads defined in § 7 paragraph 1 of Act No. 13/1997 Coll., On roads, the ownership right is limited by the fact that the owner must tolerate the general use of the land as road (Section 19 of the Act) and allow public access there. According to the law, the land becomes the purposeful road directly when it fulfils the definition given in Section 7 (1) of the Act, i.e. when it is used to connect individual properties for the needs of its owners or to connect these

properties with other roads or to manage agricultural and forest land, where the Act On roads does not link the constraints with the provision of financial compensation. Its only constitutionally consistent interpretation is the limitation of the ownership right with which the owner of the land concerned must agree. Besides the necessary consent of the owner, the condition of the public use of a private property is also the existence of necessary and irreplaceable road need, i.e. the assessment of legitimate restrictions on fundamental rights as a necessary condition of the proportionality of the restriction. If there are other ways to achieve the objective of providing a road link between real estate without limiting the ownership right, it is appropriate to keep the property right in a different way. If there is a different choice of access to a real estate and if any purposeful road does not fulfil the role of the necessary road link, the alternative entry to the real estate through the land of another owner is purely the private interest of the property owner, which may be edited by private law institutes. If the condition of road necessity is fulfilled for the needs of the property owners, the right of access is also established to third parties, i.e. to an unlimited circle of persons from public.

The above-mentioned provisions of the Act on Roads and, above all, the key decision of the Constitutional Court of the Czech Republic, No. 268/2006 of 9 January 2008, which defines the defining features of the purposeful roads, it is possible to speak of a transport route within the meaning of § 2 of the Act on Roads. The transport route must link the property to the needs and purposes of its owners or serve to connect these properties with other roads or to manage agricultural and forest land or according to the consent of the owner it might be used by an unlimited circle of persons. The transport route must serve the so-called necessary road need, where the connection cannot be clearly regulated by the private law institute.

Road is defined by the law as a transport route that displays the features of publicly accessible purposeful road. The term transport route is not characterized by the law but through interpretation it can be deduced as a noticeable and relatively constant transport connection used by persons to walk, ride or to some of these acts. It may include a hardened part of the land by natural material, e.g. gravel, stones or parts of the land deliberately processed for the purpose of transport connection or construction (this is not a mere processing of land). The purpose of the transport route, in the case of purposeful road, will be the connection of the real estates for the needs of the owners of these properties or to connect the real estate with the other roads or the management of agricultural and forest land, express (Chen, Xie, Wang, Duan, Ma, 2017). In this context, the authors of the chapter state that Act on Roads does not consider direct connections, i.e. downs and downsides of neighbouring real estates on the road, as the purposeful road. The authors of the chapter state examples of purposeful roads such as dirt and forest roads, arrivals to operational sites and other facilities designed to meet public or private needs, e.g. sports facilities, cultural facilities, forest lands and lands of watercourses, quarries, service stations, schools or other facilities, e.g. bus stations, campuses and spaces inside factories and other

enterprises and public car parks.

Pursuant to the provisions of Section 63 of Act No. 114/1992 Coll., On Nature and Landscape Protection, as amended, it is not allowed to establish or remove publicly accessible public roads, trails and paths outside the built-up area without the consent of the competent nature preservation authority. Municipalities keep an overview of publicly accessible roads, paths and trails in the area of their territorial jurisdiction, report (Škodová Parmová, 2011); (Líšková Dvořáková, Pártlová, Krogmann, 2018).

The attributes of purposeful road do not explicitly stem from the Act on Roads but have been judicially introduced over time even with reference to the First-Republic Judicature. This is the so-called consent of the owner of the purposeful road to its public use and the existence of the necessary transportation needs. The consent of the owner of the purposeful road to its general use is currently being deduced judicially mainly with reference to the finding of the Constitutional Court sp. No. II ÚS 268/06 of 9 January 2008, when it has to be the consent of the owner of the road to use it by unlimited number of persons, with the fact that no specific form is defined for the consent, i.e. it can also be given implicitly (by factual act of the owner from which the consent to use the road can be deduced by unlimited number of people). It is also clear from the Constitutional Court's finding that the consent which was granted by the previous private owner of the road is obligatory even for his legal successor, i.e. for the subsequent successors of the purposeful road who have acquired the road by transfer. According to § 1106 of Act No. 89/2012 Coll. of the Civil Code, a generally valid conclusion can be drawn that the person who acquires the right of ownership also acquires the rights and duties to deal with the acquired object. The authors of the chapter consider that a generally applicable rule of law cannot be ruled out even in cases where the original owner of the road is a public-law body, i.e. according to the Charter of Fundamental Rights and Freedoms, Article 11, the legal protection of the property rights is provided to all entities without distinction of legal content. In the case of agreements on the issuance of property to churches and religious institutions or judicial decisions where the obliged entity refuses to issue the property, this is not a transfer of ownership within the meaning of Section 1099 of the Civil Code according to the opinions of the authors of the chapter. Nevertheless, we note that even under the provisions of Act No. 428/2012 Coll., the legal status of the purposeful roads will be maintained even after the release of the property.

The public access of the roads means an unlimited circle of persons who might use it anytime, which excludes a narrow group of persons designated by the ownership of one or more properties that are used through road, the case law insists on the public interest in the use of purposeful communication. Authorized person is, according to the judgment of the Supreme Court sp. 22 Cdo 3158/2009 of 27 June 2011, an unspecified group of users but these are not individual rights of individuals, see the similar quote in Supreme Administrative Court, 1 As 63/2013

of 25 September 2013. The range of authorized persons is unlimited but it is clear that always in a particular situation it will be a certain number of listed persons, i.e. the owners and users of the property who will use the given road. It will also be a public-law obligation if consent has been given to a selected number of persons while not excluding the others.

As has been interpreted above, the commitment of the owner of the road to stand the use of the road by third parties has public nature, which means that the owner of the road is not allowed to establish, change or invalidate the commitment to use the road through the private contract law unilaterally. The subsequent binding legal relationship does not change the reality of the existing public commitment to tolerance of use, i.e. the consent of the previous owner of the journey is also obligatory for the legal successor. If the road fulfils the attributes of purposeful road, its owner is not entitled to arbitrarily disturb the road or to prevent third parties from using it in accordance with the law, i.e. consent cannot be revoked or cancelled. According to the Law, the purposeful road is created when its owner gives consent to general use. This consent can be granted by explicit or factual and implied dedication, i.e. by tolerance of general use (not expressing a qualified disagreement when the owner is aware that his land is used so).

Also, the question of using road "since time immemorial" is connected with the problematics of the owner´s consent to originate publicly accessible purposeful road, when the consent of a previous owner can not be detected (statistically traced), but the road permanently serves to the needs of the transport connection to an unlimited number of persons for urgent transport needs, i.e. according to the case law it is as a publicly accessible purposeful road. The authors of the chapter comment that in many cases consent takes the form of dedicating the road to general use that can be traced by one of the previous owners of the road. In accordance with the case law, it can be concluded that it is a publicly accessible purposeful road when the owner (the previous owner) did not state a qualified clear disagreement with the general use of his road, i.e. the road belongs to his land, add (Do, Kim, Kim, Joo, 2017). The case law requires an active action of the owner resulting in a clear disagreement with the use of the road for benefit of the public. If consent can not be traced and the road serves to a necessary transport need for a long time, consent to the general use is assumed. If these conditions are not met, it is possible to use the road only for compensation as it would be an unacceptable restriction of the property rights which are protected by the constitutional order.

In the case of the restitution, the consent of the previous owner was not accepted by the case law, when previous owner was a public body and the case law claimed that consent of a public body has different attributes than consent of private person. However, if the person, who acquired the road by the restitution, did not express a qualified disagreement with the general use of the road within a reasonable time then the obligation to tolerate the general use passes on to him/her. For example, the judgment of the Supreme Court sp. 4 As 163/2013 of 3 June 2014 speaks in the

sense that the three-year period since the acquisition of ownership is sufficient to express this disagreement.

The authors of the chapter do not agree with the conclusion of the Constitutional Court, where the ownership rights of all entities under the Charter of Fundamental Rights and Freedoms should be of the same scope and the same protection as well as the same content of rights and obligations under the property law should be used. If the consent to the public use of the road was given by a previous public-law owner, it is not reasonable to consider this consent as inferior, states Mauerhofer (2019). The content of the owner's consent will be decisive for determining the attributes of the purposeful public road when the owner is entitled to define a circle of people who can use the road according to the extent of general use, e.g. designating a public car park in front of a hypermarket which might be used only by customers of the shop. The owner can also specify other conditions including time possibilities of using the road, e.g. to set up a road in a gardening community which links individual recreational objects and land only for property owners.

According to the case law, another feature of publicly accessible purposeful road is the so-called necessary transport need, i.e. the assessment of condition whether there is another transport connection for the benefit of the owners of the concerned property which does not interfere with the owner's property rights. When assessing an alternative to ensuring the access to property, the possibility of providing the public space of the municipality, in whose cadastral territory the concerned properties are located, may also be admitted. The owner of the concerned property need not be connected to the purposeful road that is neigh bouring with theproperty. This verdict will be valid for the access to the concerned property by motor and other vehicles but it is always appropriate to assess the attributes of the property and the purpose of its use. The determining criteria will be the length of the transport alternative, its safety, the construction and technical conditions, the compatibility of the use of alternative transport links with other generally binding legal regulations, e.g. protection of nature and landscape, construction regulations, protection of agricultural land resources, flood protection, air pollution etc., the amount of the costs necessary to ensure the viability of alternative connection, the local situation in terms of connection to local roads or access through the public area within the municipality regardless of the ownership of the lands and buildings that create the public area, note (Sutton, Wang , Schweitzer, McClure, 2017). Other comparable ways of connecting, which lead to less restrictive ownership restrictions, are priority. Alternative connections must be comparable in the sense of full compensation, e.g. winter accessibility, accessibility for collection of waste, arrival of vehicles of the Integrated Rescue System etc. The longer lenght of the alternative connection does not mean the necessary transport need of the assessed road.

From the point of view of the assessment of the transport needs and the attributes of the road or its transport alternatives, the type of land registered in the cadastral register is not decisive. The real nature of the assessed road and the possible transport

alternatives are crucial. In the case that the transport need comes to an end, the concerned road in no longer publicly accessible purposeful road. According to the judgment of the Supreme Administrative Court, No. 1 As 76/2009 of 22 December 2009, it can be concluded that factual public accessibility does not make any road publicly accessible purposeful road. The owner's consent is necessary beyond the normal tolerance of the limitation of ownership, but also by the pressing urgent communication need. The owner's consent beyond normal tolerance of limitation of the property right but also the urgent transport need is necessary.

The last defining feature of publicly accessible purposeful road is the absence of any private-law agreement under which the concerned entity would use the transport link in question. It might be agreement concluded in any form, mostly in form of rent, loan or service. As the authors of the chapter have already mentioned, the existing obligation of the owner of the road to tolerate the use of the road by third parties is of a public nature which excludes situation that the owner of the road established, changes or annuls the use of the road when it is used for the same need and extent, add (Muralikrisna, Manickam, 2017). The subsequent binding legal relationship does not change the existence of the existing public commitment to tolerance of use. This condition does not exclude the fact that the owner of the relevant public road allows the access only for selected group of persons but the owner might change this condition towards other entities using provisions of civil law, e.g. service or rent.

The authors of the chapter draw attention to the existence of special public regulations which modify the right to walk and to drive differently in incompatibility with the Act on Roads and according to the principle «lex specialis derogat priori», they are prioritized over the general norm, e.g. the territory of national parks and protected landscape areas, reservoirs, water management structures and protection zones, military areas as well as hunting territories, express (Melnykovych, Nijnik, Soloviy, Sarkki, Bihun, 2018). The authors of the chapter point out the rule of free access to the land according to §63 of the Nature and Landscape Protection Act according to which every citizen has the right to free passage through land owned or leased by the state, municipality or other legal entity unless no damage to property, rights or health of another person is caused according to generally binding legal regulations coments (Kawharu, 2011). The Act excludes from public authority built-up building plots, yards, gardens, plantations, vineyards, hop gardens and parcels intended for farm animal breeding. Arable land, meadows and pastures are excluded from entitlement at a time when crops, land or cattle can be damaged.

Legal attributtes of publicly accessible purposeful road. At the beginning of the chapter, the authors expressed the opinion that the determination of the legal attributes of the purposeful road will be significant from the private law´s point of view (the Civil Code addresses the relationship of the land and the buildings built on it in this sense) in accordance with Act No. 428/2012 Coll. It can be considered whether the purposeful road is/is not a matter or part of the land on which it is

located or eventually the assessment whether the land on which the purposeful road is can be considered as built-up in the sense of Act No. 428/2012 Coll., i.e. excluded from the issue within the meaning of Section 8 of this Act.

The Supreme Court of the Czech Republic refered to the situation when the purposeful roads are a type of land and represent a certain representation or treatment of surface, i.e. they can not be either a land or a construction in the sense of civil law as two different roads that might have a differential legal regime. If the purposeful road is not a building in the sense of civil law, but only a part of the land, it can not be considered whether the civil relations to the road and the land on which it is located differs. The authors of the chapter note that even if the opposite conclusion was valid and the purposeful road was found building and not only part of the land then it is still valid that when it is utilized so buildings build up on the land and other facilities are part of the plot including everything that is embedded in the land except for temporary buildings under the meaning of Section 506 of the Civil Code, effective as of January 1 2014. In the case there are different entities on the part of the owners of the land and the construction, the transitional provisions of the Civil Code § 3054 to § 3060 would be applied, including the legal pre-emptive right and the different legal regimes of the land and the construction. In this connection, the authors of the chapter draw attention to the problematic provision of Section 3059 of the Civil Code on the building which is located on more plots and which, in case of roads, will be a frequent case when the double legal regime will be applied only to the land on which the majority of the building is located.

The authors of the chapter express a different opinion on the attribiutes of the purposeful road formulated by the Supreme Administrative Court according to which the construction of the purposeful road is such that it is possible to clearly define where the land ends and the building starts. At the same time, the construction of a purposeful road can not be removed without its destruction/substantial deterioration of its ability/viability; we discuss separate real estate as a thing within the meaning of Section 119 (2) of the Civil Code, which is subject to legal relations. In relation to these interpreted contexts, it is also appropriate to assess the professional terminology mentioned in the new Civil Code which considers the building as a part of the land even if it had the status of a separate thing. Due to the temporary provisions of the Civil Code in the case of different owners of the building and the land, these problematics continues to be up to date.

Considering the meaning of Act No. 428/2012 Coll., which excludes issues of built-up land, it will be decisive to determine whether the purposefuel road is/is not a building which is a part of a land and is not capable of separate use, or whether a part of the land is used which is directly related to the building which is necessary to use the building and will not be excluded from issue, although it will not be a purposeful road, e.g. road equipment on another land (lighting, etc).

Forest road. Prior to the analysis of the legal regulation of the general use of forest roads, the authors of the chapter define the legislative term “forest road” for

the purpose of legal regulation of the use of forests as well as the authors define the forest road as a road because of absence in a legal regulation.

Only Implementing Regulation No 433/2001 Coll. to the already abrogated Building Act No. 50/1976 Coll., on Spatial Planning and the Building Code (Building Act) defines the technical requirements for constructions in order to fulfill the function of the forest, characterizes the forest roads as purposeful roads that are part of the forest transport network used for wood removals, transport of persons and material only for the benefit of the owner of the forest and the passage of special vehicles, comment (D'Amato, Rekola, Wan, Cai, Toppinen, 2017). The authors of the chapter draw attention to the fact that this definition is not beneficial because it does not contribute to give a clear answer to the question of what is/is not a forest road from the point of view of defining a forest road in sense of qualifying technical requirements for buildings which ensure function of forests, e.g. buildings of forest paths, ravine fencings, structures for drainage of forest soil and small water reservoirs in forests, communicates (Lukas, 2017). The authors of the chapter see anotherther inconsistencies in the nomenclature of forest roads, in the meaning of purposeful road, which is not concerned in the access of citizens to public road with regard to the subject of the regulation. The nomenclature is inconsistent, rather controversial, as the inclusion of forest roads between the purposeful roads provokes to answer where the purposeful road is located if it is not located in an enclosed area in the sense of the Act on the Roads Act of Sections 7 and 19. If the definition also states that the forest road serves only to the interest of the forest owner it would exclude other persons/the public from the definitional features. According to the Czech Technical Standard ČSN 73 6108, the Forest Transport Network, we consider the forest roads as so-called forest transport networks where transport facilities of all kinds used to interconnect forest complexes with the public transport network are possible, contribute (Chen, Pierobon, Zamora-Cristales, R, Sessions, Eastin , 2017), as well as to approach and collect wood and other forest products, to transport people and material in the context of forest management, cite (Kaakkurivaara, Korpunenb, 2017), respectively to other purposes. The forest transport network also includes forest dumps. According to this standard, the forest road is a purposeful land road which is a part of the forest transport network, conclude (Akgul, Demir, Akay, 2017) and is intended to remove timber, to transport people and material, to transit special fire trucks or medical services, etc. In this case, it is not appropriate to formulate a legal definition which indirectly supports the significance of solving a problem of forest road´s accessibility by the public, because it includes the forest path between purposeful roads without limiting her use only for the needs and purposes of the owner of the forest.

Forest road as the purposeful road. In order to meet the requirements for the public purposeful road, the forest road has to fulfil the definition features of the purposeful road as described above. In the case of forest roads, transport needs must be considered as the forest transport network presents unpaved forest roads where,

in relation to third parties, every transport need is unlimited by number so we call it a purposeful road not a publicly accessible road.

According to the definition of the forest road as a purposeful road under § 2 of Act No. 361/2000 Coll., on Road Traffic and on amendments to some laws, e.g. the Road Traffic Act, as amended, which also define crossroad as a place in which roads intersect or cross, the crossroad is not the end of dirt or forest road or other purposeful land road because the concept of a forest road is perceived as another purposeful road, explain (Yli-Pelkonen, Setälä, Viippola, 2017). The Act on Forest Roads perceives the forest road as a part of a forest which serves not only for forest management but also for the non-productive function of the forest, e.g. non-wood-based forest infrastructure or environmental, comment (Angelstam, Khaulyak, Yamelynets, Prots, Valasiuk, (2017). In terms of the priority of the owner of the forest and its economic use, but to the public interest, the use of the forest road for the needs of the owner can be completely excluded, communicate (Akgul, Yurtseven, Akburak, Eksi, Akay, 2017). The forest road is in principle accessible to the public free of charge and, under the valid rules, it is primarily designed to protect the forest, nature and landscape, say (Soltani, Sankhayan, Hofstad, Eshraghi, Arabmazar, 2016). The forest road is a publicly accessible purposeful road within the meaning of the Act on Roads, due to the utility of the purposeful road, e.g. the management of forest lands, express (Galantinho, Eufrázio, Silva, Alpizar-Jara, Mira, 2017). We specify the purposeful road in the case there is absence of a transport road which is necessary for forest management. In the case that the required attributes of necessary transport need are met, the publicly accessible is a land road, regardless of the absence of forest management functions. Concerning the above-mentioned facts, we conclude that purposeful road can be used free of charge both for walking and driving by motor and other vehicles, taking into account the rules of road traffic, the construction and technical conditions of the road and other generally binding legal regulations, see (Němec, Holátová, 2017).

Forest road as a land designated for fulfilment of forest functions. Act No. 289/1995 Coll., On Forests and on the amendment and modification of Certain Acts (Forest Law), as amended, defines forests as forest stands with the environment and land intended for the fulfillment of the production and non-production functions of the forest. Forest management means restoration, protection, upbringing and output of forest stands and other activities which ensure the fulfillment of forest functions including non-productive functions, interpret (Eriksson, Wahlberg, Nilsson, 2016). Areas intended to fulfill the functions of a forest are lands with forest stands and areas where the forest stands have been removed for the purpose of restoring forest crossings and unpaved forest roads if they are not more than 4 m wide and land on which the forest stands were temporarily removed according to the decision of state administration of forests pursuant to Section 13 (1) of this Act (forest land) and next paved forest roads, small water areas, other areas, land above the uned boundary of woody vegetation (except for land plots and their access roads) and

forest pastures and fields for game, if they are not part of the agricultural land fund and are associated with the forest or serve the forestry (other plots), because the state forestry authority can order the designation of the competence to the land intended for forest functions, add (Ioannou, Lefakis, Arabatzis, 2010).

But let's move on to what the relationship between the Forest Act and the Road Act is and whether the forest roads are, therefore, excluded from general use by the Forest Act, or whether their general use is regulated by the Act on Roads.

The authors of the chapter think that the Forest Act as regards the use of forest roads as land roads is considered to be special in relation to the Roads Act, since the existence of a special Act on public access to roads might vary (we find a direct reference in the law to the Forest Act and its provisions § 20 (1) (j)), it is related to the limitation of forest use in relation to the limitation of forest use outside forest roads, not on forest roads, because forest law regulation does not define forest management rules to fulfill production/non-production functions. The Forest Act does not only fulfill the function of a legal regulation (in what way and how much wood it is possible to extract) but also regulates a specific area of public interest namely forest protection as a unique special part of life and the relationship of men to their surroundings (Suzuki, Parker, 2016). The authors of the chapter believe that the legislator's reasoning was aimed to include the Forest Act as a legal regulation related to the right to use the forest, including forest paths for walking, riding, forest harvesting, etc.

According to the definition of lands used to fulfill forest functions, there cannot be included crossings and unpaved forest paths with a width of more than 4 m which fall under the so-called woodless cathogeory as this category is included in forest land within inventorying; paved forest roads up to 4 m in width are rated as woodless because they are so-called other lands which belong to the category of land intended for the fulfillment of the functions of the forest as well as the built-up land and the incoming roads. Limitations of forest use in the Forest Act intended for these categories should not be connected with the restriction or prohibition of the right to enter, to drive or to stand by vehicles because it is the built-up land only in the case of building plots under the meaning of Act No. 183/2006 Coll. on Land Planning and Building Regulations (Building Act), as amended, i.e. land registered in the cadastral register as a building plot and other land parcels, usually with one fencing which creates a coherent whole of residential and commercial buildings. As driveways, we characterize any roads that lead to built-up land and are used for driving by motor and other vehicles. Assuming that a purposeful communication (regarding its construction condition) can show attributes of building (whether under the Building Act or the Civil Code) which would mean that all forest roads that are buildings, respectively the land on which the building of the road is located, are built-up land and therefore are automatically excluded from the use limitation regulated by the Forest Act.

The right to enter the forest roads and the right to drive there. According to

a special regulation of the right of entry and walk on land intended for the fulfillment of the functions of the forest, respectively on forest roads which categorically define land intended for the fulfillment of forest functions according to the provisions of § 19 and § 20 of the Forest Act, we conclude that every citizen has the right to enter the forest at his own risk or to collect the forest fruits and dry woods for his own use. Furthermore, the citizen is obliged not to harm the forest, not to disturb the forest environment and to observe the instructions of the owner or the tenant of the forest and his employees. In forests, there is forbidden to enter fenced or labeled areas and wood stands where harvesting, extraction or transport of woods is carried out. However, these prohibitions are not valid within activities that are carried out during forest management, speak (Feist, Buhle, Baldwin, Davis, Scholz, 2017). Special rules are applied to organized sports events in the forest which can only take place on the basis of an announcement at the State Forestry Authority under the conditions set out in the Forest Act and with the consent of the forest owner.

In principle, the right to enter the forest roads is unlimited because, according to the provisions of Section 63, paragraph 2 of Act No. 114/1992 Coll., On the Protection of Nature and Landscape, everyone has the right to free passage through land owned or rented by the state, municipality or other legal entities, unless it causes damage to the property or the health of another person and does not infringe the rights to the protection of personality or neighboring rights.

Considering the attributes of the Forest Act as a special legal regulation in relation to the Roads Act, the authors of the chapter conclude that (in the sense of the relevant provisions of the Forest Act) riding and stalling of motor vehcicles are also prohibited on forest roads which are also lands designated for the fulfiment of forest functions. Accourding to (Statzner, Bonada, Resh, 2016) next, the right to ride a bike or horse, skiing and sledging are prohibited outside marked roads. The prohibitions mentioned above are not applied within activities carried out in forest management, as they are important with regard to driving and standing of motor vehicles, express (Kim, Song, Lee, 2013).

The Forest Act further states that the forest owner may permit an exception from these prohibitions. A written form is not required to establish a clause; the clause may be granted by the owner in written and oral form or implicitly on the basis of the factual behavior of the owner who, for example, will tolerate the entry of vehicles on forest roads, on which the entry is normally forbidden, for a certain time. This may be a general exception for an unlimited number of people or a clause appointed for specific entities. Accordingly, it is permissible that the owner, within lease or tenancy of a forest land, allows the tenant (lessee) to entrer and to stand motor vehicles of tenants (lessees) or third parties with the permit of the tenant (lessee).

The prohibition to ride and stand in the forest with motor vehicles is not applied to employees of the state forest administration body in the area of their competence in carrying out activities under this Act and to persons who perform activities

authorized by special regulations such as vehicles of a fire brigade. Exceptions to the law are also provided for the hunting rights. The Forest Act defines the obligations of the entities in the so-called forest transport under the provisions of §34.

The question of general use of forest roads, respectively lands for the fulfillment of the functions of the forest, was mentioned by the Ombudsman who (within dealing with cases of forest protection) interpreted following statements which confirmed mentioned hypotheses including the statements of the partial opinions and the final debates of the authors of the chapter.

The authors of the chapter point to the final opinion expressed by the Ombudsman in the sp. No. 512/2013 / VOP / DS of 12 August 2013, which states that the owner of a publicly accessible purposeful road is not entitled to collect any payments from its users even if it is a land intended for the fulfillment of forest functions. Charging exemptions from the statutory ban on motor vehicles entering the forest is illegal. Lands intended to fulfill forest functions are not paved forest roads that serve as driveways to built-up land; the road user of the road is not obliged to deal with the forest owner's exemption from the prohibition of entering motor vehicles into the forest, cite (Cintas, Berndes, Hansson, Lundmark, Nordin, 2017). Participants in the declaration procedure, in the case of uncertainity about the attributes of the land, are also owners of neighbouring property as they may be directly affected by their rights and obligations in view of possible legal restrictions. From the opinion of the Ombudsman, 5076/2007 / VOP / DS dated 17 June 2008, the authors of the chapter conclude that the forest as a whole can not be an enclosed area within the meaning of Section 7 paragraph 2 of the Act on Roads, therefore it can not be a purposeful communication in the woods considered to be non-public communication.

It follows from the above-mentioned facts that where the forest road is a land intended to fulfill the functions of the forest, even if it is a purposeful communication, the prohibition of entry and parking of motor vehicles is valid when the general Act on Roads provides the exemptions from the general use of purpose roads. The authors of the chapter believe that a part of the professional public cited the conclusions of the decision of the Supreme Court of the Czech Republic, 33 Odo 449/2005 dated 22 February 2005 which are not in accordance with the applicable legal regulations. They agree that the Supreme Court wrongly assessed the relationship between the Act on Roads and the Forest Act as a relationship between the special act and the general act as the Supreme Court states the following while claiming that the Forest Act is, in relation to the Act on Roads, a special regulation and that, having regard to these facts, their land, through which the part of the disputed road leads, has the attributes of the land intended to fulfill the functions of the forest and therefore the courts should judge the matter in accordance with this special law. However, this opinion is not correct, as the authors of the chapter point out. In accordance with the subject-matter of the regulation, as defined in § 1, the Act on Roads should be applied to all roads which fulfill the features specified in the other provisions of this Act and contain no provision to exclude certain roads from this arrangement.

The Forest Act does not deal with traffic problems on roads located on forest land which is confirmed by the wording of Section 7 (1) of the Act on Roads which expressly includes communication used for the management of forest land between the purposeful roads as same as the wording of Section 3 paragraph 1 letter b) of the Forrest Act states that the paved forest road be included among the plots intended for forest functions. If the paved forest road on the plot intended to fulfill the functions of the forest shows at the same time the features of the purpose road pursuant to Section 7 paragraph 1 of the Act on Roads, it is subject as well as other purposeful communications to the regime of this Act including Section 19 paragraph 1, which regulates the general use of roads Arguments of the applicants by Decree No. 433/2001 Coll is not permissible. It should not be forgotten that the Decree entered into force on 1 January 2002 whereas the applicants claimed entitlement to unjust enrichment for the period up to 14 November 2001. Furthermore, the purpose of the above-mentioned decree which specifies the technical requirements for the buildings providing forestry function and forestry terminology cannot be absent since it is stated in Section 2 paragraph 1 letter a) taken into account for the purpose of this Decree. It is clear from the wording of the above-mentioned provision that the forest road is at the same time a purpose road which is a concept operated by the Act on Roads.

At least with the effect of Act No. 152/2011 Coll., which amended the provisions of § 7 of the Act on Roads, it is unexpectiable (according to the opinion of the authors of the chapter) that the Forest Act is a special legal norm in relation to the Act on Roads with respect to the use of forest roads.

The Forest Act defines a dual regime, firstly transport roads which are a part of forest in a broad sense, respectively part of forest transport roads network and are publicly accessible purposeful roads (mainly paved forest roads) and secondly driveways to built-up lands as well as a regime of transport roads referring to the principles of forest protection and its function of preventing general use of the entrance and standing of motor vehicles.

Conclusions. The aim of the chapter was to summarize the lefal problematics of the publicky accessible purposeful roads with regards to the up-to-date valid legal case law in accordance with the question that are connected with issuing of properties to churches and religious societies, including land on which publicly accessible purposeful roads are established pursuant to Act No. 428/2012 Coll. This issue is closely related to forest lands and forest management where one of the reasons for accessibility of purposeful roads is (according to Czech legislation), inter alia, forest management as this activity is considered to be a public interest and the owners of forest lands have the legal mechanism for access to forest and other land which is not owned by them but is necessary for forestry activities. According to the finding of the Constitutional Court of the Czech Republic sp. No. 268/2006 of 9 January 2008 and the case law of the Supreme Administrative Court, the definition of the purposeful road can be deduced: a) it must be a transport road within the

meaning of § 2 of the Act on Roads, b) it must connect the real estates with each other for the needs of its owners or it must join the property with other roads or to be used for the management of agricultural and forest land; c) the consent of the owner of the purposful road to its use by an unlimited circle of persons; d) the transport road is used for the so-called transport need, or e) the connection cannot be clearly regulated by the private law institute.

According to the assessment of the transfer of the authorization for the general use of the purposeful road, the authors of the chapter consider that (according to the cited law) issue of the land on which the purposeful communication exists might be evaluated anywayif it is possible to deduce the existence of publicly accessible purposeful road according to the valid legislation and the case law; the obligation to tolerate the public authorization to the authorized entity is transferred, irrespective of the fact that the statutory body was a public body. At the same time, the authors of the chapter are aware of the fact that the above-mentioned consent of the previous owner (as a necessary condition for the duration of authorization for general use) was not deducted during the restitution, i.e. the previous owner was a public body who claimed that the consent of a public entity has a different form then a consent of a private person. However, if the person who acquired the purposeful road by issue did not express a qualified disagreement with the general use of the road within a reasonable period of time, the obligation to tolerate it then passes. If the Constitutional Court does not deviate from the pronounced opinion, it is permissible, according to the opinion of the authors of the chapter, that «the religious entity» will cancel the existing public use of the purposeful road by his active disagreement with the general use of the road. It will be of greater significance to see whether in individual restitution cases the issue of the purposeful communication will be refused because it is a building (in the case of unopaved roads created by building activities).

Free access to the land surroudings is not limited with regard to the issuance of property; the risks exist when arriving on motor vehicles.

The authors of the chapter in the final summary agree with the statements of the Ombudsman concerning the land intended for the performance of forest functions which are not paved forest roads which serve as a driveway to built-up land. The user of such a road is not obliged to obtain the forest owner's exemption from the prohibition of motor vehicles entering the forest because it is not a forest. The entitlement to use the driveway paved forest road should not be affected by the Forest Act or in connection with the issue of forest paths to religious subjects.

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METHODOLOGICAL ASPECTS OF ECONOMIC SECURITY MANAGEMENT OF THE ENTERPRISE

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The current stage of socio-economic, innovation and investment development requires a new approach to enterprise management, the development of a flexible strategy for its development, the implementation of which may provide long-term competitive advantages and the obtaining the effects of economic activity. A particular importance has the maintaining of stability and efficiency of the enterprise in the current dynamic economic conditions, that can be showed by the high level of economic security, based on taking into account all its components, principles, factors and threats. Ensuring the economic security of an enterprise is a priority task for any entity of economic activity, regardless of its organizational and legal form, because timely response to threats, their prevention and liquidation, ensuring the stable and most effective development of the enterprise, these tasks are in the area of enterprise economic security, that's why the studied category is becoming increasingly relevant both among foreign and domestic scientists.

The research of the importance, strengthening, assurance and management of economic security is devoted to the numerous works of such scientists: G. Androschuk, A. Arkhypov, O. Baranovsky, Blank I., Vyshnevskaya O., Heyets V., Glaziev S., Grandry E., Gottelmann E. Zhyvko Z., Darnopych G., Zakharov O., Kamlyk M., Kyzym M., Omelyanovych L., Singachov V. and others.

The problem of economic security research and ensuring arose in the 30's of the twentieth century. in the United States, which was associated with the global financial and economic crisis and the need to develop a rapid response measures to the threats

that arose within the national economy. Beginning from the 70's of the twentieth century the term economic security was understood as the basic components of national security and only in the early 90's of the last century, scientists focus on the study of other aspects of ensuring economic security, in particular, environmental, the determination of direct and indirect consequences of emergencies of natural and man-made origin, the growth of organized crimes,the loss of scientific and technical potential, etc.

In national scientific literature, it is accepted to select five stages of the formation of the enterprise economic security:

- Stage 1 (19991-1997) - threats to the economic security of the company arose from the side of the staff as a result of disclosure of commercial secrets.
- Stage 2 (1998-1999) - the investigation of the possible negative impact of the external environment on economic security.
- Stage 3 (1999-2002) - the study of the certain aspects of the business entities, the allocation of functional components of the economic security of the enterprise, the distribution of threats to internal and external.
- Stage 4 (2002-2005) - identification of the economic security of an enterprise with its effective functioning in risky situations.
- Stage 5 began in 2005 and continues to date - the study of the economic security of the enterprise, depending on its branch affiliation, external and internal threats of its functioning environment.

Having considered the main stages of development, we propose to focus on the study of the definition of «economic security of the enterprise», and developed approaches to managing the economic security of enterprises. We suggest to explore the most used (Table 1).

On the basis of the generalization and analysis of the study of the concept of «economic security of the enterprise», it can be concluded that scientific literature does not have a commonly accepted interpretation of the researched economic category; at the same time, there are various scientific approaches to its definition.

Thus, scientists point out protective, financial, resource and functional, systemic, strategic, informational, subjective and objective, economic and legal approaches to the definition of «economic security of the enterprise».

Taking into account the above-mentioned study on the etymology of the investigated category, and also based on its key characteristics, we propose the proper definition of the economic security of the enterprise, under which it is necessary to understand the ability of the subject of economic activity to operate stably, efficiently and rationally, on the basis of implementation of measures to prevent, overcome and eliminate internal and external threats or to ensure a reduction of their influence on economic activity and results of the enterprise to a minimum.

Table 1

Definition of the concept «economic security of the enterprise»

Author	Definition
Grunin O., Grunin S. [1]	Economic security of the enterprise is the protection of the activity from the negative impact of the external environment, as well as different variants of threats or adaptation to the existence of conditions that do not affect the activities
Dubetskaya S. [2]	Economic security of an enterprise is the state of an object in the system of its connections in terms of its stability and development in conditions of internal and external threats, unpredictable actions and difficult predicted factors
Zabrodsky V. [3]	Economic security of the enterprise is a quantitative and qualitative characteristic of the of the enterprise to reflect the ability of «self-sustaining» and development in terms of identifying external and internal threats.
Zhyvko Z. [4]	Economic security of an enterprise is a mode of ensuring the best economic effect from the operation of an entity in the form of profit or achievement of a social purpose.
Illyashenko S. [5]	The economic security of an enterprise is the state of effective use of its resources and existing market opportunities, which allows to prevent internal and external threats and to ensure its long-term survival and sustainable development in the market in accordance with the chosen mission
Kozachenko G., Ponomareva V., Lyashenko O. [6]	Economic security of the enterprise is a measure of harmonization in time and space of economic interests of the enterprise with the interests of environmental entities associated with it, operating outside the enterprise
Kovalev T. and Sukhorukov T. [7]	Economic security of an enterprise is a state of protection of the enterprise activity from the negative impact of the external environment, as well as the ability to timely eliminate various threats or adapt to existing conditions that do not negatively affect its activities.
Shavaev A. [8]	Economic security of an enterprise is the most effective use of resources to prevent threats and ensure a stable operation of the enterprise today and in the future.
Fomina M. [9]	Economic security of an enterprise is a state of the most effective use of resources for the purpose of elimination of threats and ensuring the effective and stable functioning of the enterprise in the current and prospective periods.

In addition to the concept of «economic security of an enterprise», in our opinion, the concept of «enterprise economic security management « also needs to be studied, because the mentioned term is an instrument for ensuring the achievement

of high economic results of economic activity in the case of the implementation of a consistent, logical, timely, professional management that ensures implementation of the enterprise's chosen strategy and timely response to changes in the internal or external environment.

At this stage, it is necessary to pay attention to the study of the main components of the economic security of the enterprise, under which it is understood to mean a set of basic directions of its economic security, which differ significantly from each other in its content. The analysis of professional scientific literature makes it possible to conclude that the list of components varies both in quantitative and qualitative terms.

So, for example, T. Pocropyvny, offers seven functional components of the economic security of the enterprise [10, P. 468]:

- financial, which includes solvency, structure and use of capital and profit, effective use of corporate resources;
- intellectual and personnel, provide for the preservation and development of intellectual potential of the enterprise, effective management of personnel;
- political and legal, which includes the presence of a legal service at the enterprise, the protection of the rights and interests of the enterprise in conflict situations, on the basis of compliance with the current legislation and legal and regulatory framework;
- technical and technological, which assumes conformity of applied technologies in the enterprise with the modern world analogues in order to optimize the expenses of resources;
- ecological, which ensures observance of the current ecological standards, minimization of losses from pollution of the environment) [12];
- the force, which includes the presence of appropriate services to protect commercial secrets, personal protection of employees of the enterprise, protection of property of the enterprise and the cost of these measures [11];
- information, which provides collection of all types of information about the enterprise, its analysis, processing, systematization, use, protection, etc.

According to Ilyashenko S.N., the existing components of the economic security of the company should be added market and interface components [5, P. 17-18]. Market component characterizes the market share occupied by the company, involves determining the level of competitiveness of products and enterprises, determining the intensity of the impact of the environment on the enterprise. As for the interface component, it involves the study of potential changes that arise in the relationship with suppliers, intermediaries, consumers, analysis of contract terms, identification of development trends and economic potential of the enterprise.

Matceh D.S. proposes to include to the components of the the economic security of the company anti-crisis component, which should include the development of anti-crisis measures, the availability of skills and qualifications of managers in the management decisions taken under the crisis, the cost of training, retraining or staff

training in a crisis [13, P. 177]. However, the feasibility of including this component to the economic security of the company is questionable, because in the situation of stability of the conditions of enterprise operation and the receipt of profits, in such a situation there is no need to spend money on «personnel training in a crisis», but it is better to use them to prevent and minimize risks for prevention of crisis phenomena.

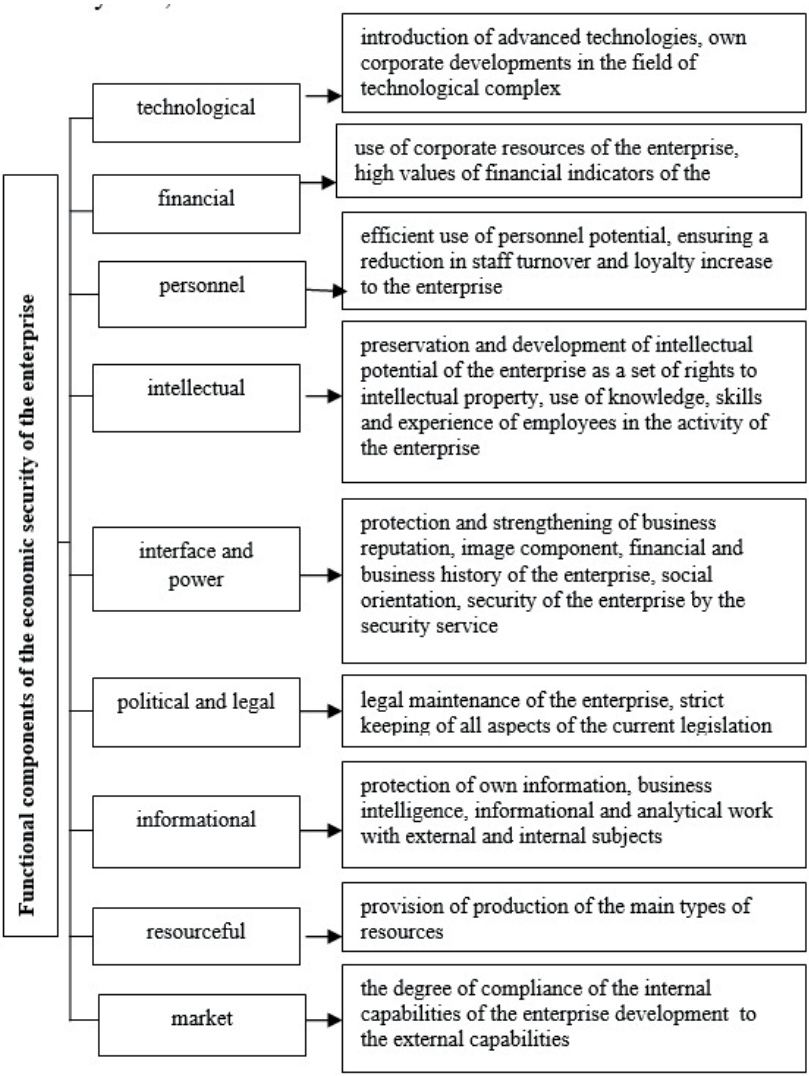

Fig. 1. Functional components of the economic security of the enterprise

Taking into account the results of the study of the components of economic security, we propose to summarize them according to the essential characteristics, which will make it possible to exclude duplication of concepts through their names (Fig. 1).

Therefore, in our opinion, the following components should be included in the components of the company's economic security [14,15]:

1) the technological component involves researching the technology market for the production of similar products, and is characterized by the level of implementation of advanced technologies, own corporate developments in the technological complex of the enterprise;

2) financial component, one of the most important and most decisive in the activity of the enterprise, can be defined as the state of the most effective use of corporate resources of the enterprise, expressed in the best values of financial indicators of the enterprise;

3) the personnel component involves the effective use of human potential or specific human capital, ensuring its development, reproduction, use in labor activities, ability to withstand internal and external influences and threats;

4) the intellectual component of the system of economic security of the enterprise involves ensuring the preservation and development of the intellectual potential of the enterprise, which in this case means the totality of intellectual property rights or its use, as well as the use and realization of knowledge and professional experience of specific human capital;

5) interface and power component. The interface component is related to the goodwill of the enterprise, its definition of its position in the external environment, presupposes the protection of business reputation, the image of the enterprise, its business history and financial stability, social responsibility. The power component of the economic security of the enterprise reflects the security of the enterprise on the security side;

6) the environmental component of the company's economic security must guarantee the safety of society, based on observance of environmental norms, modern technologies for production release, reduction of expenses related to environmental pollution to a minimum;

7) political and legal component provides for compliance with regulatory and legal regulation and all aspects of the current legislation in the business activities of all its participants;

8) the information component of the economic security of the enterprise provides for the comprehensive collection, analysis, processing of important information and its use in economic activities, as well as the protection of its own information, primarily confidential, business intelligence, information and analytical work with external and internal actors, etc.;

9) resource component provides production of the main types of resources, their required level of quality, the provision of stocks with their own working capital [14];

10) market component of the economic security of the enterprise reflects the relationship between the internal capabilities of the enterprise and external requirements of the market environment [15].

As a result of the study of the essence of economic security, its management, and main functional elements, there is a need to determine the basic principles under which the formation of economic security of the enterprise takes place. The analysis of scientific literature on this topic gives an opportunity to conclude that all the principles of economic security of an enterprise are appropriately divided into three main groups:

1. Internal principles, the observance of which ensures the economic security of the enterprise.

2. External principles of achievement of the economic security of the enterprise.

3. Principles ensuring the achievement of economic stability of the enterprise [11].

In our opinion, to the internal principles it is necessary to include the following ones: the principle of rational cost management, the principle of profitability, the principle of financial sustainability of the enterprise, the principle of balanced financing, the principle of optimizing the production structure of the enterprise, the principle of commodity policy, principle of rational inventory management, the principle of effective financial planning.

To external principles of economic security of an enterprise, in our opinion, it is necessary to include indicators influencing and checking the negative or positive influence of the state. Among the principles of the positive influence of the state on the economic security of the enterprise, we can include the following: the principle of timely detection or prevention of economic crimes, for example, decriminalizing the taxation system and overcoming the large-scale outflow of capital abroad; the principle of inhibiting sharp exchange rate changes and price levels; the principle of raising the level of capitalization of the banking system for possible long-term lending to enterprises with a reduction in interest rates on loans; the principle of minimizing public debt.

Among the principles that have a negative impact on the level of the economic security of the enterprise, the following can be attributed to the government: the state budget deficit, large external public debt, balance of payments deficit, high inflation, low domestic currency rates, low level of international reserves of the NBU, etc.

Thus, the conducted research made it possible to study the evolution of economic security as a scientific concept, to analyze existing approaches to the treatment of economic security management, to identify the main functional components and principles of the economic security of an enterprise.

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ACCOUNTING AND ANALYTICAL SUPPORT IN ENTERPRISE MANAGEMENT

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Management of production and financial activities of enterprises in the context of globalization, the widespread introduction of information technology, fierce competition and limited resources imply a high level of economic justification for management decisions at the various management levels. In this regard, it is very important to clarify scientific and practical importance of accounting and analytical support, management accounting and analysis in the enterprise management systems as well as their function in justification of these decisions.

As the bibliography review shows, the articles and monographs of recent years have not paid proper attention to the connection of management accounting and analysis with the management of an economic entity.

The analysis of the functioning of the accounting and analytical support system at Ukrainian enterprises shows a very low degree of orientation on developing and making management decisions.

Differentiation of accounting and analytical functions which are implemented in practice, sector-specific understanding of the management accounting methodology only as a mechanical set of accounting procedures, without connection with analytical functions, poor understanding of the management accounting and analysis place in the system of accounting and analytical support of enterprise management result in decreasing effectiveness of intraeconomic management. These problems determine the relevance of the research.

The concept of accounting and analytical information and its role in enterprise management was investigated by many scientists and specialists, namely: G. Brik, F. Butynets, S. Golov, N Goliachuk, K. Druri, T. Kaminskaya, R. Kostyrko, Ya. Krupko, I. Kirilov, P. Kutsik, I. Lazarishina, N. Lokhanova, L. Medved, L. Napadovskaya, V. Ozeran, A. Pilipenko, N. Prokhar, M. Pushkar, V. Rychakovskaya, V. Rodkina, I. Sadovska, N. Tychinina, B. Usach, A. Shaikan, V. Shevchuk, T. Shymokhanskaya and others.

Despite the significant achievements of scientists in the field of accounting and analytical support usage in economic entities management, the dynamism of the modern socio-economic environment, transformation processes and the need to take into account the branch aspect raised a number of problems related to the analysis of “accounting and analytical support” concept. The author considers that it is very important to continue the study of the functional content of accounting

and analytical information at the level of enterprise management and development.

Information is “a collection of data about the state of the managed system, control actions and the external environment” [6, p. 22].

In the management terminology, at the level of general definitions, the term “accounting and analytical support” that means information support for the management decision-making process is widely used [20]. Scientists investigate the accounting and analytical support of various activities of economic entities, in particular: management of enterprises and corporations [5, 9]; cost management [3]; management of labor costs [2]; innovative development of the enterprise [4]; capital [12]; analysis [5]; planning [1]; accountability [19]; economic security [16]; accounting expertise [10], etc. This testifies that “accounting and analytical support” has its thematic elements (subsystems), and therefore can be considered as a category of accounting.

The meaning of the concept «accounting and analytical support» according to the views of different scientists is given in table 1.

Table1

Definitions of the concept “accounting and analytical support”

Author	Concept meaning
H. Brik [3]	Accounting and analytical support of enterprise management is the system of information accumulation, synthesis and transfer that helps managers to make decisions, plan and control the economic entity activity
N. Goliachuk [5]	Accounting and analytical support is a component of information support for enterprise management, which allows to solve functional management tasks, provide management with complete and reliable information about business processes and relations with the external environment
I. Kirilov [8]	Accounting and analytical support is a system of data collection that comprises grouping of accounting information in the necessary context for management needs and preparationof financial statements. Herewith, analytical accounting allows to detalize information about the object in the monetary and (or) natural terms
V. Rodkina [14]	Accounting and analytical support can be defined as an interactive structure that includes personnel, equipment and procedures, combined by the information flow and used by logistical management for planning, regulation, control and analysis of the operation and development
N. Tychinina [15]	Accounting and analytical support of the enterprise development is a unity of accounting and analysis systems that are integrated by information flows and for managing economic processes while choosing (or implementing) sustainable development areas and their financing options
T. Shymokhanskaya [18]	Accounting and analytical support is an information system consisting of interconnected subsystems: accounting, financial, management (production), and tax accounting; accountability prepared for different needs; analysis of financial and economic activities and financial analysis of accountability

The table shows that there are four basic terms that are associated with the provision of management with information, while explaining the informative meaning of which the words “accounting” and “analysis” are encountered directly and / or indirectly.

Accounting and analytical system as an information resource that accumulates, summarizes and organizes information should include such basic elements as primary and consolidated accounting documents, accounting registers, internal and financial accountability.

V. Panteleev, T. Kaminskaya, V. Rychakovskaya offer similar interpretations of information support. In particular, T. Kaminskaya defines the concept of “accounting and analytical support” as “a system of accumulation, processing, summarizing, presentation and analysis of financial information, ensuring its quantity and quality for enterprise management” [7, 13].

V. Rychakovskaya points out that information connecting the accounting and analytical system performs the guiding role in the process of accounting and analytical support. This information is contained in the subsystems of financial, management and tax accounting [13].

Accounting and analytical information should provide employees of different levels of the enterprise with the necessary data. The information contained in enterprise cost records and accounting registers should be presented in the most convenient sections for a comprehensive assessment of the enterprise activity and making management decisions.

A. Pilipenko notes that “any information that arises in an enterprise management system must have a certain technological and organizational basis to support its own existence”. The accounting systems available at each enterprise are offered to be the fundamentals for this [11].

However, it is necessary to take into consideration that the level of such systems organization will significantly differ from the general level of organizational culture at the enterprise and available technical capabilities. In addition, the necessity for a strategic orientation of the accounting process requires incorporating of the certain analytical functions into the existing subsystems”.

As A.V. Shaikan points out, “successful activity of an enterprise in the competitive environment characterized by a change of internal and external factors is possible while developing an effective tactical and strategic management system. The effective operation of such a management system is possible only at the “good” (high) level of quality of its individual subsystems – the tactical and strategic management subsystems, as well as their coordinated interaction. On the other hand, well-run system of operational, statistical and business accounting provides the qualitative interaction of individual elements and management subsystems. And the enterprise can achieve the best indices due to excellent work and interaction of all areas and types of accounting as a unified accounting system” [17].

According to the existing interpretations and justifying the need for a close

connection of accounting and analytical system with the enterprise strategy, we offer the following definition: accounting and analytical support in management is a combination of processed accounting and non-accounting information aimed to manage an enterprise, its activities or its individual objects (costs, sales, innovation activity, etc.).

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ENERGY SAVING AND USE OF ALTERNATIVE ENERGY SOURCES AS A COMPONENT OF TECHNOLOGICAL REENGINEERING OF THE AGROFOOD SPHERE ENTERPRISES

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The global problems of our time associated with deterioration of the ecological situation are extremely relevant, since they threaten the vital activity of mankind. The global trends of intensification of production, growth of its volumes, and increase of waste products, significantly worsen the ecological situation. In addition, this is complicated by the consequences of the negative impact of environmental deterioration on the health and lives of people. That is why environmental and energy problems require urgent solutions, especially at the present stage of society

development [11].

The above-mentioned is also relevant for the social-ecological-economic condition of Ukraine, because today the problem of increasing waste products and wrong disposal, which affects the ecological deterioration of soil, groundwater and air and as a consequence, a negative impact on the human gene pool, requires searching ways of its urgent solutions, one of which is the use of energy saving technologies and the use of alternative energy sources.

The problems of energy saving, the development of alternative energy sources and the improvement of green production are the main topics of discussion at the UN conference in Stockholm (1972), in Rio de Janeiro (1992), at the World Summit on Sustainable Development in Johannesburg (2002) and meetings of the European Parliament during the past decades. According to the results of the discussion, European countries form strategic and tactical plans for the development of renewable energy sources, solving environmental problems in order to ensure the future development of mankind. However, a detailed study of the provisions declared in the respective development programs shows that not all methods and tools for solving existing problems are acceptable for Ukraine. Modern economic conditions in Ukraine can not be equated to economic conditions in France, Germany, Italy or other countries covered by the Kyoto Protocol. Therefore, Ukraine needs adapted to the domestic conditions scientific and applied developments, which take into account the current economic situation of Ukraine and its potential opportunities [15].

In conditions of deterioration ecological situation, for society became extremely important to ensure its energy needs without causing ecological damage to the environment. One of the solutions to this problem may be the use of alternative energy.

According to N.O. Perederii, the main reasons for drawing attention to alternative energy are:

1) increase of population, needs, in particular the continuous increase of the industrial needs as the major consumer of the energy industry;

2) negative impact of the cost increase of natural energy sources on industrial production and living standards;

3) quantity reduction of natural sources: coal, oil, natural gas, uranium in the future and high costs of exploring new locations;

4) insufficient attention to avoiding and minimizing the risks of environmental pollution associated with the use of natural and nuclear energy sources. In this context, the problem of global warming, which is the release of carbon dioxide (CO^2) during the combustion of coal, oil and gasoline in the process of obtaining heat, electricity and ensuring the operation of vehicles, creates the so-called "greenhouse effect" is important [12].

V.A. Skrypnychenko notes that this problem is associated with the underdevelopment of the domestic market, the low competitiveness of national output, and the weakening of government control of the economy during the past

two decades. This situation is caused by structural disparities – a considerable proportion of material-, energy- and labor-intensive production. All this requires new approaches to the solution of this problem – the development of innovative and renewable energy sources. Their advantage is the inexhaustibility and environmental friendliness. That is why the countries of the European Union are gradually switching over to the use energy of biomass, wind, sun and water. In the energy balance of some countries, the share of non-traditional sources reaches 40% [14].

The process of ecologization of domestic agricultural production is extremely important, which, in turn, solves one of the main problems of ecological production, the preservation and strengthening of energy independence.

V.S. Voronetska considers the process of ecologization of agricultural production in the context of the use of certain alternative economic systems, the introduction of which should be agro-ecological principles, according to which the agricultural enterprise is considered as an ecological-economic system based on environmentally sound and rational production methods, ensuring high product and raw materials quality, minimal environmental impact and production efficiency [4].

Technological reengineering can be one of the solutions to the problem of energy saving and the use of alternative sources of electricity at agrofood sphere enterprises.

Reengineering and technical re-equipment of Ukrainian agrofood sphere enterprises will allow to solve problematic issues related to an increase in production volumes, which are in demand due to a decrease in production time, an increase in production capacity, and an increase in the level of occupational safety in the enterprise; ensuring a high level of product quality, the emergence of new types of products [9].

L. Varava and H. Kravchenko note that production reengineering is aimed at realization technical and technological transformations, namely the improvement of production methods and technologies, as an option, the modernization or replacement of physically and morally worn out equipment.

Thus, the production reengineering causes an increase in the technical and technological level of production due to the introduction of resource-saving technologies into the production process, an increase in the utilization rate of a powerful production enterprise, and optimization of the level and structure of production costs [2].

Since technological reengineering is an integral part of comprehensive reengineering, it also has three stages: preparatory, project, and technological reengineering.

At the first stage, the real competitiveness of the technical and technological base of the enterprise is determined, that is, the internal capabilities of the enterprise, the performance parameters of the production program (energy intensity, cost of materials and raw materials, the duration of the processes, its structure, technical level of assets, condition and composition of equipment, use and reproduction of

assets, technical equipment of labor) are evaluated.

At the second stage (project), technological needs, assets parameters which are optimal for satisfaction future needs for the enterprise's products are determined, that is, technological processes are assessed, bottlenecks and measures to eliminate its are determined.

At the third stage, technological reengineering is carried out in three forms: the introduction of new technologies or individual technological processes (automation, fuel and energy saving, material intensity); improvement of the general condition of assets (repair, modernization, reconstruction, new construction, acquisition) elimination of surplus assets [7].

The process of technological reengineering of the agrofood sphere enterprises is intended to solve issues related to energy saving activities and energy efficiency. Such a need for energy saving and energy efficiency of a production enterprise was formed and specified in ISO 4472:2008 "Energy saving. Energy management systems of production enterprises". This standard notes that energy saving activities at enterprises are carried out within the energy saving policy. Conducting energy saving policies should be based on the results of the economic and energy survey of all production and management units. Now the major factor in the formation of energy efficiency of agricultural enterprises is the creation of an efficiently operating energy saving management system, which should contain technical, organizational and economic components. The technical component should be based on improving production efficiency and reducing the energy intensity of products through the introduction of energy saving measures, the use of alternative energy sources, the innovative production technologies, reduction of energy losses, and replacement of energy sources. The organizational and economic component should be based on the creation of an energy management service of an enterprise whose activity is aimed at ensuring the rational use of fuel and energy resources and is based on obtaining energy technology information by means of accounting, on conducting standard energy technology measurement, controlling and analyzing the efficiency of using energy resources and introducing energy saving measures [6].

Agreeing with M.A. Vozniuk, we propose to separate the following tasks of energy saving management: ensuring the growth of the level of production efficiency and expansion of the volume and range of products as a result of the introduction of energy efficiency equipment and machinery; definition, economic assessment, development and implementation of energy saving measures; creating a "map" of energy consumption, conducting energy analysis to identify potential savings and, as a result, reducing the cost of finished products; reducing the negative impact of production processes and the use of energy resources on the environment [3].

The above-mentioned tasks can be implemented by introducing technology reengineering in the agrofood sphere enterprise. Positive is the awareness of enterprises of the urgent need to improve the energy efficiency of production in combination with environmental safety, obtaining energy resources and using,

for this purpose, alternative sources of combustible waste detrimental to the environment which are subject to destruction, emissions as an additional source of energy [1].

Technological reengineering of the agrofood sphere enterprise will allow energy saving and the use of alternative energy sources (Fig. 1).

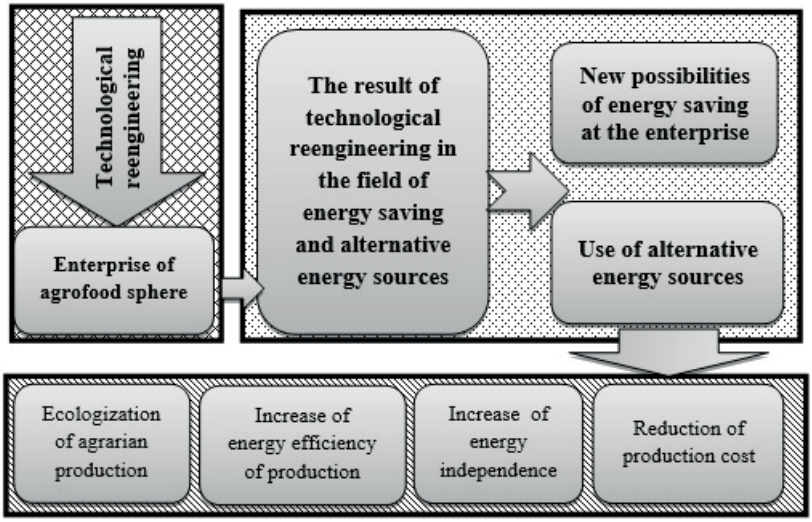

Fig. 1. Optimistic predictable result of technological reengineering in the field of energy saving and the use of alternative energy sources
Source: authoring

A. Kolevatova notes that the development of the agrarian sector and the use of alternative energy sources are associated with a decrease in dependence on energy resources which at the regional and state levels, interacting with energy security. The use of renewable energy sources is also associated with a decrease in the negative impact on the environment, which creates conditions for ensuring an appropriate level of environmental safety. In order to further develop the agrarian sector in the context of energy saving, investments are needed, both foreign and state, to provide a significant opportunity to introduce the innovative technologies, which are one of the ways to effectively solve energy problems. This may be the processing of specific agricultural raw materials (crushed vegetable biomass, manure, waste) into biogas and related products, such as liquid organic fertilizers [8].

In the Energy Strategy of Ukraine until 2030, it is noted that the components of the energy saving management system depend on inter-industry and intra-industry changes in the country's economy. According to the Energy Strategy of Ukraine until 2030, the estimated energy saving potential of the country will be 318.4

million tons of reference fuel in 2030, which is almost one and a half times higher than the current level of primary energy consumption.

The introduction of technological and structural energy supply measures will allow a 51.3% reduction in the level of energy consumption in 2030 – from 621 million tons of reference fuel at the current level of energy efficiency of 302.7 million tons of reference fuel with the predicted level [5].

O.O. Prutska and O.M. Tkachuk adhere to the opinion that the situation with the introduction of unconventional renewable energy sources in the agrofood sector of Ukraine is characterized by the following main features [13]:

- comprehensive application of modern methods, technologies and technical means for alternative energy supply requires additional legislative support and long-term consistency of state policy in the field of energy saving;
- energy supply based on the use of renewable energy sources requires the investment of significant financial and material resources, in modern conditions it is a significant problem.

Ukraine practically lacks mass production of many types of technological equipment for the use of unconventional energy sources.

The unconventional (alternative) energy resource S.V. Naraievskyi includes all types of renewable energy sources: biomass (excluding firewood), solar energy, geothermal energy, wind energy, tidal energy, waves, and watercourses (excluding hydro energy of large watercourses) [10].

Thus, the technological reengineering of the agrofood enterprise will be effectively implemented, which will open up new opportunities in the field of energy saving and the use of alternative energy sources, which today is extremely important in the context of an environmental crisis and a shortage of energy resources.

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ADAPTATION OF THE PROSPECTIVE SPECIALISTS IN AGRONOMY TO PROFESSIONAL ACTIVITIES AS A COMPLEX OF THEIR PROFESSIONALISM

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The structure of adaptation of prospective agronomists to professional activity in educational process in the form of a combination of motivational, cognitive, procedural and assessing components is clarified. The specificity and interrelation of students' socio-professional and socio-psychological adaptation are revealed. The study analyzes the specifics of the agricultural production sector, which determines the process of prospective agronomists' professional adaptation in the process of their professional training; the main adaptation resources of the prospective specialists of the agrarian sphere are determined. On the basis of theoretical analysis

of the problem, a conclusion is made about the place and role of university's phase of professional adaptation in the general adaptation process (pre-university, university, postgraduate professional adaptation).

Adaptability, that is, the dynamic balance in the system «man – professional environment», is manifested primarily in the efficiency of man's activities characterized by high productivity and product quality, optimal energy and optimal nervous and mental efficiency, as well as professional satisfaction.

The main provisions of the National Doctrine of the Development of Education of Ukraine, the Bologna Process, the Laws of Ukraine «On Education», «On Higher Education», the issues of humanization and humanitarian approach in education are the priority ideas, the implementation of which should ensure the transition of Ukrainian education in the XXI-st century to a new humanistic and innovative educational philosophy. In agrarian education, the professional training of the prospective specialists is oriented towards a market economy, since in today's agro-industrial complex a professional is needed, capable of effectively introducing the latest technologies into the agricultural branch, thus becoming a true master of his earth. At the same time, the question arises about the formation of a personality capable of reviving the best traditions of the Ukrainian village and agricultural labor; a specialist who realizes the importance and significance of his profession for society and the environment.

The formulation of article's objectives. In this regard, the educational process in agrarian universities requires the introduction of modern educational technologies that will ensure the use of best experience of domestic and foreign scientists in the area of adaptation of the prospective agronomists to their future professional activities within the changing conditions of contemporary Ukrainian agricultural sector.

So the objectives of the article are to analyze the problems of prospective agronomists' professional adaptation in the process of their professional training, as well as to determine the main adaptation resources of the prospective specialists of agrarian sphere.

Results. Professional adaptation is a complex phenomenon since it depends on a number of economic, political, socio-psychological, psycho-physiological and other factors that integrally determine this process. In the context of these problems, the pedagogical aspect of students' adaptation to their prospective agronomists' professional activity deserves special attention, covering the content, process and result of prospective specialists' professional training, as well as the changes taking place in Ukraine and the world.

The contemporary market dictates rather complex conditions for the quality and level of specialists' professional training regardless of the branch of economic activities. At the same time, agriculture is in a special position among other spheres of Ukrainian state, since market relations are being formed in agricultural sector rather slowly, and modern agricultural production technologies are being introduced in the countryside in much slower rates than in the city. Personnel policy

in agricultural production sector is not always well thought out, which, on the one hand, causes a tangible shortage of qualified specialists, and on the other, we have inappropriate and rather ineffective use of current human resource management for agriculture. According to A. Bartenyev's scientific researches [4], about 30% of agricultural graduates (budget form of education) settle in the rural territories, but among this small number only 15% leave their agricultural occupation and change their qualifications after the first year of professional activity. As a result, a shortage of professionally qualified specialists in agricultural branch is felt, and this applies not only to middle-level workers, but also to key agronomists, veterinarians, agricultural technicians and engineers, etc. It is clear that the main negative factors in this situation are economic; however, one cannot deny the significant role of social and psychological factors, including low level of professional adaptation, taking place long before the beginning of specialists' professional activity.

The process of prospective agronomists' professional adaptation, as well as other specialists in agrarian sector, is complicated by the specifics of agricultural production sector, which can be characterized by following features:

1. There is no sufficient number of vacancies for the graduates of agricultural universities to stay in the city. It is known that a significant number of agricultural students are reluctant to leave the city after graduating from the universities and having been adapted to the conditions of urban lifestyle. But it is very difficult for young agronomists to get a job in urban settings, so they often change the profession, just having left the walls of his university. Therefore, the state loses skilled, trained workers, and all the efforts of agricultural universities to provide a sufficient level of professional competence are nullified [24].

2. There is a seasonal nature of active professional activities of those engaged in agricultural sector, including those with higher education. As A. Kravchenko [12] notes, the extreme tension of agricultural labor without any fixed working day falls on the period of crops, harvesting and haymaking. Then the working day lasts 14-16 hours; whereas the winter months do not require such an intensive work, and there is an excess of labor. In addition, seasonality of agricultural labor is characterized by a high proportion of manual labor thus revealing dependence on region's climatic conditions (so-called risky agriculture). An additional consequence of these factors being a certain explanation of the complexity of professional adaptation of a specialist of agrarian sphere is his/herconstant work in the open air, regardless of weather conditions. Let's also add that a young specialist-agronomist should be versatility trained, since narrow-profile specialists cannot fully realize his/her professional activities in rural territories. So, a young agronomist after graduation should have sufficient knowledge of agro chemistry, soil science, seed science, technology of processing and preservation of agricultural products, etc. Such extensive knowledge can provide the specialist not only with a quick adaptation to professional activity, but also with a sufficient social status.

3. There are financial instability of agrarian production and low income of

rural population, including agricultural specialists. This instability is determined by external (political, economic, demographic) and internal (weather conditions, fuel prices, credit policy, etc.) influences on agriculture. In such a situation, young agronomists cannot plan their life trajectory, status growth, etc., which, of course, does not contribute to their successful professional adaptation [18].

4. There is also a limited career development in the rural society and the narrow spectrum of vacancies, which makes professional adaptation also limited concerning the status social roles that are available to young specialists [24].

5. There are also a high level of social control and the peculiarities of rural lifestyle, which prescribes certain requirements for the graduate of the agrarian sector concerning communication in social environment, as well as orientation in society, etc., since for rural areas, for example, collective labor style, collective solution of social problems, the prevalence of customary law and communal character of moral regulation of people behavior are more characteristic. Therefore, the young specialist immediately becomes the object of attention for the whole population (being in the focus of discussion of all his/her mistakes and behavior peculiarities), which, of course, does not contribute to a quick and successful professional adaptation.

6. At last, in rural areas there is a low level of development of social infrastructure, limited access to leisure centers, insufficient level of household services, etc.

In view of the mentioned problems and difficulties in professional adaptation of the graduates of agrarian universities, we can conclude that these adaptation problems are typical for prospective agronomists since the beginning of their professional training because:

1) the bulk of the entrants who have chosen a specialty in agronomy are rural residents, and therefore these adaptation problems are known to them since childhood;

2) a significant part of the prospective agronomists do not plan to return to professional activities in the agrarian sector, and uses the universities as a time and place for adaptation to urban environment;

3) during the period of studying in the university, the situation in agriculture is being changed, so the graduate may not be fully prepared for this situation.

On this basis, we can formulate the conclusion that professional adaptation should be an integral part of agrarian specialists' professional training as a system entity.

The specifics of the prospective agronomist's adaptation to their future job lies also in the activity of the adaptation vectors, which correspond to the system of relations man-nature», «man-society», «man-culture». It is clear that the prospective agronomist is much more concentrated in the process of professional adaptation to the «man-nature» system, because his/her professional activity is taking place with the significant participation of this structural component of the system of human relations with the world.

Hence it is important to adapt the prospective agronomist to professional activity

during his/her professional training that reveals such adaptive resources:

– physiological, psychological and cognitive qualities of the student's personality, which enable him/her to adapt to the conditions of studying in agrarian university, to accumulate a set of professional knowledge, to adapt to a professionally oriented environment of an agrarian university;

– personality features of the students that influence the implementation of the above mentioned psycho physiological and intellectual resources, thus providing the subjectivity of the objective circumstances of professional training;

– social characteristics of the prospective agronomist (status-role position in a student group, socio-economic status, personal social experience, etc).

The analysis of scientific works on the problem of adaptation (including professional adaptation) as a pedagogical scientific phenomenon made it possible to make a conclusion about its diversity, taking into account the criterion of classification, and interdependence of its components. Thus, V. Semichenko proposes to consider adaptation in the framework of system approach as a complex structural entity enabling to differentiate the following subsystems:

1) energy subsystem, which reflects the resource reserve of the organism to ensure its activities in adaptation, which implies increased energy consumption;

2) environmental subsystem, the essence of which lies in human relations and externally subject conditions;

3) activity subsystem that reflects person's ability to perform a certain set of actions in adaptation period (the assimilation of new ways of behavior which reject the existing skills, being superfluous in new adaptation conditions);

4) social subsystem, which embodies all the characteristics of the individual's entry into a new social space (the adoption of its norms and values by a person, on the one hand, and adoption a person by a human society, on the other);

5) a personality subsystem, being determined by personality level of adaptability (reduction of persons' anxiety, lack of desire to change their personality situation, domination of positive emotions, self-confidence, self-power, adequate self-esteem) [25].

Due to the analysis of labor adaptation structure V. Poltorak distinguishes the psycho-physiological (specialist's assimilation of special labor conditions at a new workplace), socio-psychological (the introduction of a specialist into the system of relationships within a separate team, adaptation to the rules and norms of cohabitation in it), the professional adaptation proper (specialist's acquisition of professional skills and capacities that have not being formed during the professional training, or the development of those skills and capacities that have been formed in the process of such a training) [22].

Valuable is the opinion of L. Yegorov, who in his researches concerning the stages of professional development presents the professional adaptation as a integral unity of several basic stages, in particular: the pre-university stage is characterized by person's definition of the sphere of prospective professional activity, as well as outlining the professional motivation and identification of prerequisites

for choosing the future profession, the formation of the basis of professional orientation; the university stage, providing the formation in the students the professional motivation, self-awareness, competence; the after-university stage, outlining students 'adaptation to real conditions of work, specifically, the final adjustment of professional orientation, adaptation to the conditions of professional activity, adaptation to professional status, realization of personality and professional potential, development of professional skills [22].

In the structure of the university's professional adaptation, one can singled out social-professional and socio-psychological adaptation.

Socio-professional adaptation is considered (P.R.Atutov, O.I.Zotova, I.K.Kryazheva, N.L.Kolominsky, Ye.M.Pavlyuttenkov, etc.) [1;10; 13; 11; 19] as a phenomenon, the formation of which is influenced by such factors as the social status of the prospective specialist, the level of his/her professional self-determination, the formation in a student a socially significant professional abilities; his/her social status and role in the group, as well as personality's specific characteristics that determine the conditions for revealing students' professional qualities during their professional training [9].

Consequently, adaptation is an inevitable, obligatory phenomenon of the transition of a personality from one type of activity to another.

The result of social and professional adaptation is the socio-professional status of a specialist working in agro-industrial complex. The socio-professional status is defined by the scientists as the place of the specialists in their professional structure, reflecting the level of their socio-economic status, qualifications, and professional self-awareness.

Socio-psychological adaptation (O. Zotova, I. Kryazheva, A. Nalchandzhian, T. Shibutani, etc.) [10; 13; 16; 26] expresses changes in students' social roles, their communicative environment. Due to socio-psychological adaptation, being an important component of the professional adaptation, a correction of prospective specialists' needs, the system of their values, the need for flexible regulation of their behavior, as well as the need for professional self-affirmation in the student group is realized. Socio-psychological adaptation promotes the students' assimilation of the norms and traditions of the university where they study, which correspond to the essence and nature of chosen profession. The psychological component of socio-psychological adaptation reflects the restructuring of students' thinking processes and such leading mental functions, as memory, imagination, representation, attention. In the process of students' professional training the emotional load on them increases due to their need for emotional and volitional entry into prospective profession.

Taking into account the fact that the approaches to structuring the professional adaptation can be different, we have come to the conclusion that the structure of students' professional adaptation during their professional training is understood on the basis of such conceptual thesis: professional adaptation of the individual is a holistic multicomponent system whose properties cannot be reduced to the

sum of separate components' properties [15]. At the same time, all components of professional adaptation have a relatively independent status. If one of the components (for example, cognitive or procedural) predominates, the result may be different. So, in our opinion, there can be no direct correlation between the level of academic success of the prospective agronomist and the level of his/her motivation for professional activity in agrarian sector.

The analysis of scientific literature, as well as ours observation of the process of professional training and professional adaptation of the prospective agro industrial complex specialists made it possible to conclude that the structure of their adaptation to professional activity in the process of their training can be represented as a unity of several components– motivational, cognitive, procedural, and assessing ones.

The motivation component of the professional adaptation is a particular element of this phenomenon, since the students' motivation to realize themselves as a prospective specialist depends not only on their adaptation to the conditions of study, but also on further adaptation as a prospective specialist. The lack of such a motivation results in the lack of students' active mastering the knowledge thus limiting their possibilities to professional self-realization. Unfortunately, there is a lot of such unmotivated students [20]. Therefore, the task of the university is to create a positive image of the prospective profession, which will provide sufficient professional motivation as a component of professional adaptation. According to N. Pylypenko, the motivational mechanisms determine the success of the process of specialists' professional adaptation [21]. The essence of these motivational mechanisms consists in appropriate change in the ratio of «the subject of activity –the professional environment»; but if we assume that the educational environment of the university is characterized with a certain level of professionalism, then the motivation for obtaining professional knowledge, the formation of professional skills and capacities are an integral part of students' professional adaptation during their training.

By and large, students' motivation for their prospective profession is an active process aimed at eliminating the student's inadequate professional orientations, thus fulfilling an important function in shaping the structure of personality adaptation factors when professional activity becomes a reality and the main form of human activity [14]. Given the fact that contemporary science considers two main factors of forming the professional adaptation (real one being measured by trainee's professional activity; and potential one being determined by specialist's attitude to his/her profession and the motives for his/her choice), then an important conclusion can be formulated: the motivation component of the professional adaptation of the prospective agronomist has a potential character and provides a positive image of the prospective professional activity, which should be consolidated by students' experience in solving practical professional tasks. Thus the motives of educational activity play an important role in the content of motivational component. And since students' educational activity is aimed at mastering professional knowledge, so their

professional training motivation play the role of an important factor of professional adaptation.

As the results of the research show, a large proportion of secondary school graduates select a prospective profession due to a coincidence of certain circumstances, and not by their calling. Therefore, at the end of study, the students often do not consider their choice to be successful, which undoubtedly reduces the motivation to their prospective work and influences professional adaptation during the study. In addition, the system of higher professional education is a rather conservative social institution, and the agrarian sphere requires highly skilled, technologically competent specialists capable of working in the context of rapid modernization changes. Therefore, students that are motivated enough for their prospective activity tend to adapt professionally, first of all, during their production practices in agrarian sector, because it is there that they can get real practical knowledge.

The process of forming a positive motivation in the students is characteristic of all mechanisms of motivation, known in psychology: the mechanism of motivation for success, the mechanism of avoidance, the mechanism of the conflict«achievement-avoidance». According to N. Pylypenko, in the process of students' professional adaptation during their training the mechanism for avoiding failures is not productive and important, because it involves students' refusal of full professional self-realization in the profession of agronomist; this refusal results in insufficient resources for successful professional adaptation within the conflict«achievement-avoidance» mechanism [21].

Thecognitive component of the prospective agronomists' adaptation to their professional activity presupposes, first of all, students' sufficient level of knowledge in their perspective specialty, covering a wide range of humanitarian disciplines necessary for successful entry into the professional field. K.M. Gurevich notes that «…any person is capable of mastering any profession. The matter lies in the problem, how much time and effort it will take»[6]. In general, the knowledge and skills of a university graduate are the basic capital that is formed throughout the training process and enables the prospective agronomists to declare their professional claims and to enhance the level of professional adaptation at the stage of obtaining a profession.

The acquisition of a complex of professional knowledge enables the prospective specialists to develop adaptive and orientation abilities that help to substitute objective flows of professional and not only professional information, that is, to develop their professional mentality. Moreover, the first and second training years, as already noted above, are the process of students 'adaptation to educational process of the agrarian university; and this is propaedeutics for students' professional adaptation being consolidated in senior years of study [15].

The knowledge, being acquired in the process of theoretical training, is realized by the students in the course of practical activity within theoretical training elements during practical classes and within more or less integral process of professional

activity in the course of production practices; in all, this activity forms the basis of the procedural component of students' adaptation to professional activity, which determines the effectiveness of the formation of pertinent capacities and professional skills. Thanks to students 'training activity, these skills operationalize students' knowledge and thus cause qualitative changes in perspective specialists' personality characteristics. The mentioned component also reflects students' adaptation to new psycho-physiological loads, a certain rhythm of life, methods and forms of training (and subsequently, the educational-professional), activity, as well as involvement in stressful studying work. If at the same time students' motivation to master the profession of agronomist is not sufficiently stable, so within the procedural component there can be a final correction of professional intentions that determine the content of students' professional adaptation.

Within the procedural component, certain subjective difficulties clearly manifest themselves, which adversely affect students' adaptation to professional activity in general, namely:

– insufficient level of knowledge in professional disciplines, which were mastered by the students superficially, thus does not allowing to form professional skills as the basis of prospective professional activity in agrarian sphere;

– low level of students' working and educational activity, which together with a small life experience and lack of professional experience cause insufficient social-professional maturity of prospective specialists;

– insufficient expressiveness of professional motivation, which does not contribute to students' desire to realize their knowledge in practical skills and abilities.

The development of the procedural component of students' adaptation to professional activity is clearly influenced by the effectiveness of all production practices being envisaged by the curriculum. So we can emphasize a special place and role of a production practice in the course of students' professional training and professional adaptation, since practice is an integral part of educational process and allows consistently combine students' theoretical training with their practical professional activities [16]. It should be noted that the problem of the influence of production practice on students' professional adaptation is insufficiently outlined in scientific literature. One can name a single scientific study [24], but even this work has a superficial analysis of production practice as a tool of professional adaptation.

The assessing component of the prospective agronomists' adaptation to their professional activity contains, in our opinion, the assessment and self-assessment of their adaptability to prospective profession, as well as students' self-esteem of the level of satisfaction with the chosen profession. Satisfaction, as being evidenced by scientific research [2; 3; 5], is characterized by the scientists mainly as a phenomenon, which in a certain way affects the specialists' personality status and their professional development. Thus, in S. Voitovich's opinion, satisfaction is a «complex social and psychological phenomenon, which, depending on individual's

degree of socialization as well as the type of satisfaction, has a varied influence on human activity» [5].

The results of the pilot survey of the students (3-4 years of study, National University of Life and Environmental Sciences of Ukraine, the number of respondents is 86, and the sample is a coincidental one) showed that most prospective agronomists are not satisfied with their future professional activity, The reasons for this are different:

– unsatisfactory state of agriculture in the country as a whole – 63.9%;

– low salary of an agronomist – 91.8%;

– rural area as a place of professional activity – 37.2%;

– the indifference of the local leadership and the leadership of the country to the problems in agrarian sector – 51.1%;

– underdeveloped infrastructure in rural areas – 72.1%;

– low level of career opportunities for an agronomist – 33.7%;

– they are not going to work in the chosen profession at all – 44.1%.

It should be noted that students could choose several answers; therefore, getting digital data is significant. We will also add that the students who indicated that after graduation they were not going to work as agronomists could also express the reasons for their dissatisfaction with the profession.

Results of the pilot survey are presented in Fig. 1.

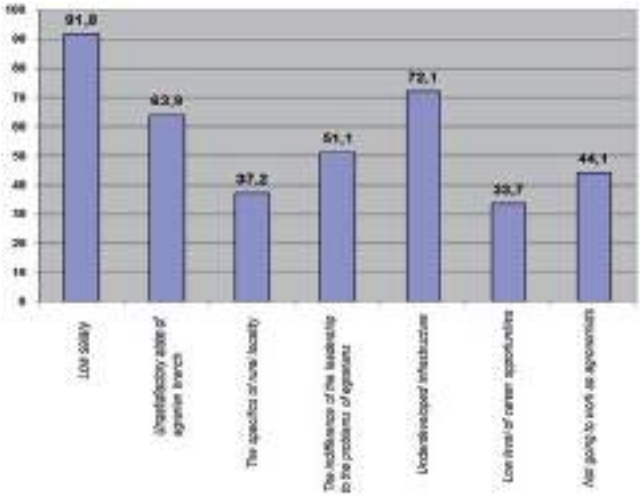

Fig.1. The main reasons for dissatisfaction of 3-4 year of study students with their prospectiveagronomist profession (in%)

The development of the assessing component of students' adaptation to their professional activity also affects the level of their professional self-determination,

and here is a direct correlation: the higher the level of students' professional self-identity, the more professionally adapted they can be considered at the stage of studying in the University of Agrarian Profile. And vice versa, the undervalued level of students' professional self-determination, their reluctance (inability) to see themselves among the representatives of chosen profession determine an inadequate level of students' professional adaptability in the process of professional training.

The idea of professional development, which is directly related to the problem of professional adaptation, is manifested at three levels in psychological literature [8; 23]:

– intentional, being realization of the aspirations of the subject of professional adaptation («I want»);

– potential, being self-assessment of students' cognitive and intellectual opportunities in professional development and professional adaptation («I can»);

– post-adaptation, at the level of consolidation of stable psycho physiological and personality characteristics of the subject of professional adaptation («I have»).

These levels [8], can be understood as the basis for differentiation of students' trajectories of professional development, and therefore, professional adaptation. Interpreting these considerations, we determined the student's resulting and assessing positions in the process of professional adaptation as a trajectory:

– desirable, expressing the desire to have a sufficient level of students' professional adaptation while studying in agrarian university, so that in a real professional situation they have a constant and consistent professional development without adaptation complications;

– possible, expressing realization of students' confidence that there is an opportunity to achieve a sufficient level of professional adaptation due to their abilities and interests;

–real, expressing objective assurance that students achieve a certain level of professional adaptation during the training period, and this will be quite enough to have no problems with professional adaptation in real situations of professional activity.

The content characteristics of students' adaptation to professional activity come from the criteria of adaptability, which can be both subjective and objective. The criteria can include the level of success (in general, and within professional disciplines, in particular), the successful passing of production practices, the level of formation of basic professional competencies, being outlined by educational and qualification characteristics of an agronomist.

To subjective criteria include:

– self-assessment of students' professional adaptation (satisfaction with chosen profession, correlation of values and professional orientations);

–professional motivation in chosen profession (social and professional motivation);

– the formation of personality qualities promoting professional development;

–personality's professional orientation (level of social-professional activity during training, aspiration for permanent professional self-education, etc.).

The process of professional adaptation can lead to different (as well as to mutually exclusive in their content, structure, and personality's individual characteristics) adaptation effects, which can be outlined as follows:

1. Students' professional adaptation contributes to their self-improvement, as well as to development of both the students himself and his educational environment, without violating the studying process and without introducing revolutionary changes in the content of professional training.

2. The process of professional adaptation ensures the integrity of the personality of the prospective specialist and / or the system of professional training in case of threat to its integrity.

3. The process of professional adaptation does not lead neither to any significant violations of the system of professional training, nor to any personality distortions.

4. The process of students' professional adaptation leads to destructive consequences: violation of professional motivation, destruction of the content and forms of professional training, lowering the level of professional readiness of the prospective specialist, etc.

Thus, the structure of adaptation of prospective agronomists to professional activity in educational process in the form of a combination of motivational, cognitive, procedural and assessing components is clarified. The specificity and interrelation of students' socio-professional and socio-psychological adaptation are revealed. The study analyzes the specifics of the agricultural production sector, which determines the process of prospective agronomists' professional adaptation in the process of their professional training; the main adaptation resources of the prospective specialists of the agrarian sphere are determined. On the basis of theoretical analysis of the problem, a conclusion is made about the place and role of university's phase of professional adaptation in the general adaptation process (pre-university, university, postgraduate professional adaptation).

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ORGANIZATION OF ACTIVITY AND ACCOUNTING FOR NOT-FOR-PROFIT ORGANIZATIONS: THE FOREIGN EXPERIENCE

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A nonprofit organization is an organization whose goal is something other than earning a profit for its owners Usually its goal is to provide services. This definition corresponds approximately to that found in most state statutes. The definition also emphasizes a basic distinction between the two types of organizations a distinction that is the cause of many management control problems in nonprofit organizations. In a for-profit company, decisions made by management are intended to increase (or at least maintain) profits. Success is measured, to a degree, by the amount of profit the organization earns. By contrast, in a nonprofit organization, decisions made by management ordinarily are intended to produce the best possible service with the available resources [2].

The nonprofit sector is the sum of private, voluntary, and nonprofit organizations and associations. It describes a set of organizations and activities next to the institutional complexes of government, state, or public sector on the one hand, and the forprofit or business sector on the other. Sometimes referred to as the "third sector" with government and its agencies of public administration being the first, and the world of business or commerce being the second, it is a sector that has gained more prominence in recent years - in the fields of welfare provision, education, community development, international relations, the environment, or arts and culture [5].

Success in a nonprofit organization is measured primarily by how much service the organization provides and by how well these services are rendered. More basically, the success of a nonprofit organiza- tion is measured by how much it contributes to the public well-being.

An important distinction exists between public (governmental) and private nonprofit organizations. Within the public category, the division among federal, state, and local government entities of USA provides a useful organizing scheme; any of these entities can have agencies, commissions, or authorities.

Within the private category, an important distinction is between charitable organizations, for which donor contributions are tax deductible, and commercial and membership organizations, for which donor contributions ordinarily are not

tax deductible. The former category includes health, educational, social service, religious, cultural, and scientific organizations; in the latter are social clubs, fraternal organizations, labor unions, and similar entities.

Non-for-profit organizations have similar financial transactions, accounting and bookkeeping needs as any for-profit organization.

The American Institute of CPAs (AICPA) is the world's largest member association representing the CPA profession with more than 418000 members in 143 countries and a history of serving the public interest since 1887. AICPA members represent many areas of practice, including business and industry, public practice, government, education and consulting [1].

The AICPA sets ethical standards for the profession and U.S. auditing standards for private companies, nonprofit organizations, federal, state and local governments. It develops and grades the Uniform CPA Examination, and offers specialized credentials for qualified professionals who focus on personal financial planning; forensic accounting; business valuation; and information management and technology assurance. With the Chartered Institute of Management Accountants (CIMA), it offers a Chartered Global Management Accountant (CGMA) designation, which sets the global benchmark for quality and recognition in management accounting.

The AICPA and CIMA also make up the Association of International Certified Professional Accountants (the Association), which represents public and managerial accounting globally, advocating for the public interest and advancing the CPAs, CGMAs and other accounting and finance qualities, competencies and employability professionals worldwide.

The AICPA Not-for-Profit Section supports not-for-profits (NFPs) and the professionals who serve NFPs. The Section produces and delivers information, tools and resources that facilitate timely compliance with standards and regulations, promote the excellence of our members as leaders in the NFP sector, and serve as a hub for peer-to-peer learning and information sharing. Topics cover NFP requirements in Accounting & Financial Reporting, Tax Compliance, Governance and Assurance.

Foreign experience shows that until recently, accounting for non-profit organizations was divided into four categories, and accounting principles were established mainly by the American Institute of Certified Public Accountants (AICPA) in separate audit manuals for each of them. The four categories were as follows:

– colleges and universities;

– hospitals and other health-care entities;

– voluntary health and welfare organizations;

– «other» nonprofit organizations.

Like any organization (or individual), a not-for-profit organization should have sufficient resources to carry out its objectives. However, there is no real need or

justification for “making a profit” - that is, havingan excess of income over expenses for a year or having an excess of assets over liabilities at the end of a year beyond what is needed to provide a reasonable cushion or reserve against a rainy day or provide for future growth plans of the organization. A surplus or profit is only incidental.

Not-for-profit organizations have a responsibility to account for funds that they have received. This responsibility includes accounting for certain specific funds that have been given for use in a particular project as well as a general obligation to employ the organization’s resources effectively. Emphasis, thus, is placed on accountability and stewardship. To the extent that the organization has received gifts restricted for a specific purpose, it may segregate those resources and report separately on their receipt and disposition [7].

The Not-for-Profit Guide applies only to nongovernmental not-for-profits and includes the following types of organizations:

– cemetery organizations
– civic and community organizations
– colleges and universities
– elementary and secondary schools
– federated fund-raising organizations
– fraternal organizations
– labor unions
– libraries
– museums
– other cultural organizations
– performing arts organizations
– political parties
– political action committees
– private and community foundations
– professional associations
– public broadcasting stations
– religious organizations
– research and scientific organizations
– social and country clubs
– trade associations
– voluntary health and welfare organizations
– zoological and botanical societies.

A voluntary health and welfare organization receives most of its support from voluntary contributions and is engaged in activities that promote the general health and well-being of the public. Typically, these organizations generate some revenues through user charges but receive most of their support from others who do not receive direct benefits.

FASB and GASB standards require different reporting. For example, FASB

reports equity as net assets that are permanently restricted, temporarily restricted, or unrestricted. FASB also requires that the changes in each of the three net asset classifications be shown. GASB standards generally classify equity as unre¬stricted or restricted fund balance. Many governmental health-care organizations will follow past practice terms of which restricted categories are presented as specific purpose, plant replacement and expansion, and endowment [3].

Other nonprofit organizations include the other organizations already listed (except colleges and universities) and cemetery associations, civic organizations, fraternal organizations, labor unions, libraries, museums, other cultural institutions, performing arts organizations, political parties, private schools, professional and trade associations, social and country clubs, research and scientific organizations, and religious organizations. Not-for-profit entities that operate essentially as commercial business for the direct economic benefit of members or stockholders (such as employee benefit and pension plans, mutual insurance companies, mutual banks, trusts, and farm cooperatives) are specifically excluded, as are governmental units.

The FASB has identified three classes of net assets: unrestricted, temporarily restricted, and permanently restricted. To be restricted, resources must be restricted by donors or grantors; internal designations are unrestricted.

Permanently restricted resources include endowments (resources that must be invested permanently) and certain assets such as land, artwork, and the like that must be maintained or used in a certain way. As the term indicates, these resources are expected to be restricted as long as the organization has custody.

Temporarily restricted resources include unexpended resources that are to be used for a particular purpose or at a time in the future and resources that are to be invested for a period of time (under a term endowment). Temporarily restricted resources might also be used for the acquisition or receipt of a gift of plant and would represent the undepreciated amount. As the plant is depreciated, the amount would be reclassified and depreciated in the unrestricted net asset class. Alternatively, the plant may be initially recorded as unrestricted.

Unrestricted resources include all other resources such as unrestricted contributions, revenues from providing services, and unrestricted income from investments. Resources are presumed to be unrestricted unless there is evidence of donor-imposed restrictions. As mentioned, undepreciated plant may be included as unrestricted. Donor-restricted contributions whose restrictions are met in the same accounting period may also be reported as unrestricted [3].

For each period for which a statement of activities is presented, a not-for-profit organization shall disclose:

– the composition of investment return including, at a minimum, investment income, netrealized gains or losses on investments reported at other than fair value, and net gains or losses on investments reported at fair value;

– a reconciliation of investment return to amounts reported in the statement of activities if investment return is separated into operating and nonoperating amounts,

together with a description of the policy used to determine the amount that is included in the measure of operations and a discussion of circumstances leading to a change, if any, in that policy [10].

Revenues, expenses, profits and losses should be accounted for on an accrual basis. Revenues and expenses should be reported in gross amount; Gains and losses can be indicated net. Realized and unrealized gains and losses on investments may be indicated net. All stock exchange income is recorded as an increase in net assets without restrictions.

Unconditional promises to give are recorded as revenues. Conditional prom¬ises to give are not recognized as revenues until the conditions are met. However, conditions are carefully distinguished from restrictions. Conditions require some action on the part of the donee before the gift is given. Restrictions are created when the donor indicates that contributions are to be expended for a particular purpose or in a certain time period. Specifically, contributions are restricted as to purpose or time or for plant acquisition.

Revenues, including contributions, are considered to be unrestricted unless donor-imposed restrictions apply, either for purpose, time, or plant acquisition. A presumption is made, in the absence of contrary information, that a given expense would first be made from restricted resources, if available, rather than from unrestricted resources, in which case a reclassification would be necessary, as shown next.

Expenses are to be reported by function. The FASB does not prescribe functional classifications but does describe functions as program and supporting. Major program classifications should be shown. Supporting activities include management and general, fund-raising, and membership development. Other classifications, such as operating income, may be included, but they are not required.

Contributed services, when recognized, are recognized as both revenue and expense. However, contributed services should be recognized only when the services:

– create or enhance nonfinancial assets;

– require specialized skills, are provided by individuals possessing those skills, and typically would be purchased if not provided by donation.

In 2016 the FASB issued Accounting Standards Update (ASU) № 2016-14 for Not-for-Profit Entities (Topic 958 in its codification). This update improved some financial statement presentations such as replacing the three classes of net assets into two: net assets without donor restrictions and net assets with donor restrictions. It also requires disclosures as to the organization's liquidity, its endowments, board-imposed restrictions and more. These updates are required in 2018 for calendar year entities and for fiscal years 2018-2019 entities [4].

Like any other organization, a nonprofit is evaluated by a wide assortment of entities like donors, investors, bankers, creditors, public watchdogs and government to get a picture of its financial position before donating, lending or accrediting the

organization.

Towards these ends, all nonprofit organizations in USA must prepare 5 essential documents at the end of each financial year. They are:

I) Statement of activities (aka income statement): Record of income earned and all expenses incurred by the not-for-profit organizations during the year that passed. Shows whether the nonprofit organization earned income or incurred suffered a loss resulting in decreases in equity or net assets.

II) Statement of financial position (aka balance sheet): Record of assets owned and liabilities owed by the not-for-profit organizations as on end of the year. Shows whether the organization owns fixed assets and whether it is solvent enough to pay its short term liabilities. At end it shows the 'net worth' of your organization, which is the difference between what the organization owns (assets) and what it owes (liabilities).

III) Cash flow statement: Record of all cash transactions of the NPO (inflows & outflows). Appraises all cash inflows and outflows in three transaction categories: cash flow in operating activities, cash flow in financing activities, ash flow in investing activities.

IV) Statement of functional expenses: A breakdown of the organization's expenses into 4 categories: Program expenses, Management expenses, General expenses, fundraising expenses.

V) Notes to the financial statements: The notes section tells the story behind the numbers. This statement includes a literal explanation of major income, expenses, accounting procedures and other material disclosures that cannot be noted in numbers and dollars. All accounting and book-keeping activities of nonprofit organizations are directed towards and culminate into preparation of these 5 documents at the year end [9].

In addition, large nonprofit organizations are required to undergo an external audit. They are required to furnish an Independent auditor's report towards that end.

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FUNDAMENTALS OF SOCIAL DESIGN OF MODERN ORGANIZATIONS

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Social design is concerned with the creation of conditions for effective activity in one or another field of social life. This designing is especially important for the development of a person's work activity. Social design provides services to all components of activity and social life of people. The specific feature of social design is to solve the problems that cover all social aspects as a whole, and it is a good reason to distinguish them by levels of organization of social life. Application of social design technologies in real life of social work of an enterprise can provide long-term social programs for its development. Moreover, the relevance of social design is determined by the fact that it consists of the development of social programs, social proposals and projects, processing methods, techniques and technologies of specific forms of social work, that is, a design approach is becoming

increasingly popular in management practices of modern organizations.

Moderate, well-coordinated social management on its own is a fundamental requirement for efficient, competitive operation of any modern organization. It provides the implementation of popular concept of corporate social responsibility. This is due to the fact that social management of an enterprise is a purposeful influence, based on the principle of feedback, on an enterprise to regulate and develop its social subsystem. Because of its systemic nature, social nature of labor, requirement to meet social needs of employees in the exchange of products of material and spiritual activity it focuses on achieving goals in the operation, improvement and development of an enterprise [1, p. 6-7].

We will give the structure of social management of a modern enterprise in fig. 1.

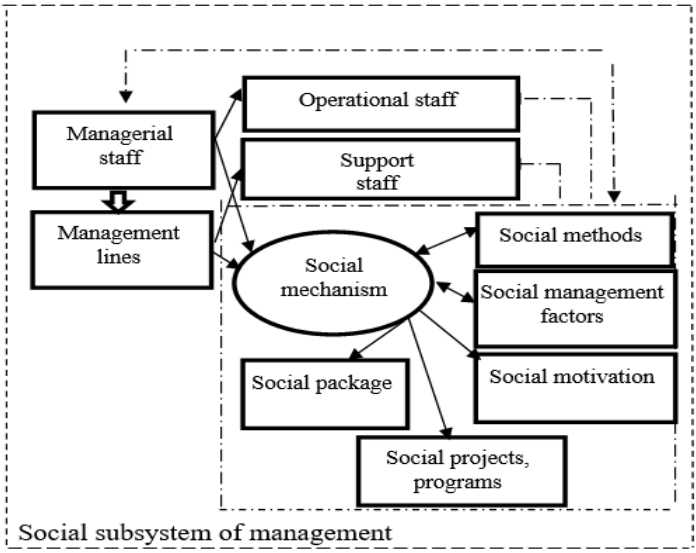

Fig. 1. Structure of social management of a modern enterprise.

It should be mentioned that social management of an enterprise will be more effective if social programs and projects are aimed at progressive development of its social sphere; improvement of conditions and quality of work of employees, meeting their needs and providing them with necessary social care and support using social and economic potential of an enterprise.

At the same time, the need to pay special attention to social management at an enterprise level is due to the importance of its results (they are criteria for assessing the efficiency of social management): high team cohesion of an enterprise; effective teamwork; a good level of employees' job satisfaction; stakeholder involvement in the enterprise operation and management; an optimal control level; social activity

of employees; a healthy employee turnover rate; steady increase of labor efficiency; a high level of employees' satisfaction with the work performed, employment at this enterprise.

In the context of social management of an enterprise we can define a project-based approach is a specific form of management that allows an enterprise to concentrate attention and resources on performance of a certain complex of tasks of social development and provision under the following restrictions: goal, objectives, work, time, resources, budget.

The following features show the advantages of a project-based approach in management (Fig. 2).

In order to implement social design efficiently and prepare successful social projects it should be guided by the following hard algorithm of the development of the latter:

Stage 1: Conducting a research.

Stage 2: Identifying problems / opportunities.

Stage 3: Setting a mission and goals of the project.

Stage 4: Formulating tasks.

Stage 5: Selection of task-solving methods, creation of a complex of basic works / activities.

Stage 6: Developing a logical sequence of work / implementation of activities.

Stage 7: Allocation, distribution and coordination of resources.

Stage 8: Setting a budget.

Stage 9: Assessment of project effectiveness.

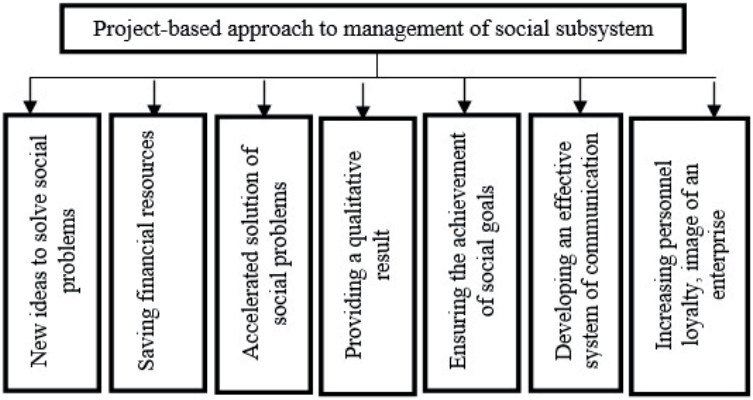

Fig. 2. Advantages of application of a project-based approach in management of social subsystem of an organization

Every stage is a logical step in social project designing. A problem must be substantiated by objective data detected in the research. A mission, a goal (final

result) must smoothly flow from the problem. Tasks should reflect step-by-step actions and have specific quantitative and qualitative benefits. Every method is a tool for problem solving, while work and actions are activities in the context of the latter. Every stage requires certain resources. In order to evaluate the result it is needed a rating scale.

We should study each stage mentioned above in details.

Stage 1: Conducting a research. Managerial activities are aimed at the monitoring and analysis of state, parameters and characteristics of a specific object in order to form an information base for its behavior and make well-grounded managerial decisions. They should be carried out on a systematic basis to form a representative assessment of the situation, which should be analyzed in dynamics.

Stage 2: Identifying problems / opportunities. It is the most important section of the project. A problem and its analysis should be presented in the project. When formulating a problem, it is necessary to pay attention to the fact that problems are the absence of something, something negative, which is harmful, something that requires changing. It is to show the causes of this negative phenomenon and its consequences. The same thing is with respect to opportunities, but vice versa.

Problem justification should include: 1) a brief analysis of its causes; 2) an analysis of previous attempts to solve this problem, their results; 3) an analysis of problem effect on the mission of an enterprise, the effectiveness of achieving the goals, and etc. At the same time target groups should be describe in this section. Project activity is aimed at target groups, whose life will improve in a certain way as a result of the project implementation. An organization should show knowledge of their problems and the availability of specialists who will work with this target audience.

Stage 3: setting a mission and goals of the project. A mission of a social project is a general description of proposed outcome and expectation, the highest point of achievements, which an organization intends to reach during the project implementation.

Stage 4: formulating tasks that should make the goals and mission more specific. In this regard, they must reflect the ways to solve the identified problems transparently and logically; be directly connected with the project activities and aimed right at the problem solving; be determined by qualitative and quantitative indicators; represent intermediate results.

Stage 5: Selection of task-solving methods, creation of a complex of basic works / activities. It is necessary to identify the ways to implement the tasks. In fact, it should be actually determined how the goals will be achieved, how the tasks will be performed, who will implement them, what resources will be used.

Stage 6: Developing a logical sequence of work / implementation of activities provides the formation of schedule and WBS project.

Stage 7: Allocation, distribution and coordination of resources. Coordination of resources for specific tasks and deadlines.

Stage 8: Setting a budget. Cost calculation of each stage of the project

implementation. Taking into account the options for resource allocation, the calendar of work and delivery, a detailed project budget is developed.

Stage 9: assessment of project effectiveness. The concept of social project effectiveness is different from the concept of business project effectiveness. Therefore, at this stage, we propose to use not an assessment, but a description of the expected social project effectiveness. These can be: positive changes in lives of stakeholders (employees), project participants: behavior change, health improvement, social and economic status, etc; positive benefits for society: changes of institutional conditions, public opinion, an attitude to a specific problem and its solutions; sustainability of operating results after the termination of a project, program, service. Thus, social project effectiveness is determined by the opportunity for integrated development of a social facility.

Since any project is time-limited, and long-term projects are noticeably less than medium-term and, especially, short-term ones, there is a frequent situation when those who gathered for collective work are not ready for it yet. There are people, but no teams. The problem will arise when, firstly, some common values are established (or confirmed) and, secondly, when mutual understanding turns into interaction technology (unspoken agreement).

Table 1

Characteristics of the main methods of strengthening a project team [based on 2]

Method	Characteristics
Brainstorming	a technique of team intellectual work with the aim to find new solutions to the problem under consideration is based on removing barriers of criticality and self-criticality of participants.
Synectics	includes work of permanent groups that professionally apply various techniques to enhance their creative potential.
Business game	imitation of managerial decision-making in various situations by playing (performance, role playing) according to the given rules or those ones that are created by the game participants themselves
Method of focal objects	technique of constructing a new object by applying to it the properties of other objects
The control questions technique	It is the work with a list of specially selected questions that help determine the nature of the task being performed accurately
The scenario building method	a view of a social project as a description of consistent development of events provided by it (can follow) with resource availability

There are a lot of methods that allow to enhance innovative potential capacity of a group and at the same time contributes to the formation of a project team. We

will briefly describe the characteristics of such methods as brainstorming, synectics technique, a business game, the method of focal objects, TRIZ (Theory of Inventive Problem Solving), the control questions technique, the scenario building method (table 1).

The formation of a project team is, of course, a much more complicated process than experimenting with the methods described. However, experience has shown that sometimes in order to significantly move things forward, it is necessary to create somewhat unusual working conditions. Also, in this case, the described methods help to perform this task. We believe that those who took part in brainstorming, business games, who worked together according to the method of focal objects, remember the smallest details of creative collaboration for a very long time. It is equally important that in such activities a project team are strengthened and provide tangible evidence of their success and have the opportunity to discover their potential.

Over time, organizations change the motivational orientations of their own activities. But the desire of people for stability, calm, security and justice remains constant. Social projects are dedicated to satisfaction of these basic needs, which, at the same time, help to meet the highest needs of the individual (in self-expression, development, respect, etc.). Social business is becoming more competitive and successful.

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PECULIARITIES OF COMMUNICATION MANAGEMENT IN MODERN ORGANIZATIONS

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Well-organized communication process is a key to efficient functioning of any modern organization. Communication management is based on the principle of equal access to all kinds of necessary information and active cooperation of employees with each other, which provides conditions for making decisions and successful work.

Communication management is an integral part of general management of an organization that makes it possible to react to internal and external factors of environment in a proper way.

Communication management refers to providing information support for all organization links. Nowadays the most important resource is information provided with the help of communication technologies. Thus, management process is impossible without communication.

Communication process involves understanding of the key objectives of organization's activity by every employee and working on corporation image, reputation and culture [1, p.195].

Therefore, in the context of world economy globalization and accelerated development of information community, the availability of positive information about organization's activity, which supports its reputation of a reliable partner on the market, can be considered as the peculiarity of communication management. Reputation management refers to the complex of actions to establish, support and protect reputation based on real achievements of organizations and focused on their prospective development [2].

From our point of view, if organization senior executives understand the significance of reputation management, they think of the perspective and are able to protect their organization from external pressure and internal risks at any necessary or crucial moment.

Taking into account the above-mentioned information, we should state that the research of reputation management impact on integrated processes in modern organizations and especially on communication management is becoming very urgent nowadays.

Business reputation cannot be copied or replaced, since it is a unique characteristic

of every organization and a special asset that cannot be bought or received without making efforts. Reputation is built up in the process of organization development and is its essential component [3, p. 42].

Reputation management researchers consider three trends which should be coordinated according to organization profiles. The first one is reputation establishment (changes in business activities, decision-making mechanisms etc.).

The second one is reputation support. It refers to generating such conditions when the organization image is created by means of the whole complex of positive information including brand, corporation culture, motivation level of employees, financial turnover volume, gaining market share, putting competitors on the back foot etc.

The last step is reputation protection, i.e. establishing new legal infrastructure and reducing costs for making business. In practice, all three steps are simultaneous [4, p. 38].

On the strategic level, the purpose of reputation management is establishing close links with stakeholders who have significant influence on the perspectives of organization functioning on the market.

In our opinion, it is necessary to state that one of the most important social components of business reputation that has dramatic impact on modern organization prestige is corporate social responsibility. It is organization's voluntary contribution to social, economic and ecological development of community. This contribution is closely connected with the main organization activity and goes beyond legally established minimum.

Every organization that seeks for authority and influence in community should know that recently most world leading companies have established their own policy of corporate social responsibility. Moreover, nowadays there is an association of companies aimed to the development and promotion of the conception of corporate social responsibility.

We think that adhering to the principle of corporate social responsibility by modern organizations is a significant part of their reputation as well as communication management. Furthermore, under current conditions socially responsible activity of any organization is considered to be a standard of behavior and a part of business ethics. Scientists suggest that it is due to the following factors [5, p. 22]:

- social activity of employees who want all organization decisions which they are interested in to be made in consultation with them;
- state regulation of big business activity for the sake of public interest;
- social environment influence on making managerial decisions in organizations.

Keeping in mind the significance of social respect, in order to improve their reputation modern organizations should focus on social value of their activity and prepare the program of corporate social responsibility that will accommodate stakeholders' interests and wants by means of communication management.

It should be mentioned that corporate social responsibility as a part of reputation

management has two main development vectors, i.e. internal and external forms. Both of them have their own development trends and peculiarities.

Taking into account all potential benefits, the peculiarity of corporate social responsibility practice refers to the fact that an organization can get the most out of it when its social activity is widely discussed. In order to carry out this task successfully it is important to make appropriate choice of the trend in socially responsible work as well as to create efficient communication campaign to promote this work.

Social activity of an organization involves various social programs of internal and external orientation. The special features of social activity programs are voluntary basis, system based approach and their link to development mission and strategy [6, p. 20].

Internal social activity includes, first of all, organization's attitude to its own staff, since every employee is a simplified model of the whole organization. Moreover, any socially responsible organization is characterized by voluntary response to social issues or problems of its employees concerning their development and social security. Such approach is considered not only as taking care of the staff, but also as a vital condition of organization's survival and development in the long run.

The main actions of internal corporate social responsibility include [7]:

- actions of social security of organization staff (total absence of discrimination, actions to provide staff security, life and health protection and assistance in case of emergency);

- human capital development by means of implementation of professional development programs, advanced training, using salary motivation schemes and support for efficient internal communication;

- analysis of employees' interests in the process of making important managerial decisions, which implies cooperation with employees who are considered as the main organization stakeholders;

- implementation of socially responsible innovative programs by means of preparation of social programs focused on facilitation of employee's adaptation to organization innovations (professional retraining, assistance in job hunting, redundancy compensation).

It is also necessary to mention that organization employees are powerful stakeholders and, moreover, they are an important source of organization reputation. Therefore, communication mangers should take into account their opinion in the process of preparation of certain projects and programs.

External corporate social responsibility (that is beyond an organization) includes: cooperation with local communities; relations with business partners, suppliers and customers (so called influence groups); respect to human rights in business activity and contribution to solve global ecological problems [8, p. 343].

At the same time it is important to comply with the following conditions which provide that corporate social responsibility will be of maximum benefit to

organization's reputation and communication management development:

- selection of such trend of socially responsible work which corresponds to organization's strategy and is not in conflict with its values and business style;
- organization's willingness to provide resources for socially responsible work, including time and human resources;
- organization's statement that it knows how to measure the efficiency of socially responsible initiative and how to communicate its achievements in this area.

On the base of world experience, we will try to differentiate criteria of socially responsible organizations.

These criteria include: production and sales of high quality goods; improvement of employees' professional level; conscientious tax payments; adherence to the norms of state and regional legislation; implementation of corporate programs for employees' health security and motivation; participation in generation of positive public opinion about business etc.

It should be stated that due to the implementation of the conception of social responsibility, organizations gain their social reputation and increased trust of the community to their activities, improved professional level of their employees, secure internal environment and new partner relations.

Thus, it is necessary to work out the mechanism of promotion of social responsibility development. It should consists of such elements as: promotion of public opinion about the significance of social responsibility for social and economic development of organizations and the state; shaping positive views of businessmen concerning their active social position; development of legal framework for clear understanding of social responsibility; improvement and application of the taxation mechanism to grant bonuses in the process of implementation of social programs [9].

The above-mentioned arguments concerning the improvement of social development of organizations are reasonable if social responsibility becomes top managers' duty and helps evaluate their own intentions and select behavior patterns in full compliance with social development. Otherwise, organizations should report to the community and be punished.

It is also necessary to say that social responsibility with the help of other factors provides sustainable development of organizations in the long run due to the amalgamation of interests of owners, the community, the state and other stakeholders.

The main drawbacks to take actions concerning social responsibility may be shortage of funds, tax pressure, imperfect legislation to promote these programs, lack of information and experience in this branch, absence of public and private organizations which could assist and give advice in conflict situations [10].

Our research has proved that efficient functioning and management of organizations is impossible without appropriate communication, since communication processes provide conditions for the development of employees' professional characteristics and creative potential.

In conclusion, we can say that the peculiarity of communication management in modern organizations is a wish to improve reputation and constant demonstration of a social component of business. Only in this case organizations will gain respect from all target groups without any exception, since the activity in the sphere of corporate social responsibility is positively accepted by the whole community.

Socially responsible companies have more possibilities to employ talented and active staff. Other commercial benefits include investors' trust and access to capital and long-term investment accordingly.

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MECHANISM OF ADAPTIVE DEVELOPMENT MANAGEMENT OF DOMESTIC ENTERPRISES IN THE CONDITIONS OF EUROINTEGRATION

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The need to develop and implement in the concept of realizing the economic potential of Ukrainian enterprises the mechanism of adaptive development management is intensified by the strengthening of the processes of European integration. This trend is gradually becoming a sign of system city and dynamism, antagonism and asymmetry, the effects of which are unevenly implemented in the national economy.

Problems adaptive development of enterprises in accordance with modern conditions of development of integration processes much attention was allotted in scientific works of both domestic and foreign scholars.

In the writings of R. Whipp [1], E. Lofquist [2], P. Jarzabkowski [3] previously documented substantive characteristics of the adaptation and specificity of its manifestations. P. Jarzabkowski [3] draws attention to the significance of adaptability as a particular property of the subject, taking into account the provision of its competitiveness; R. Whipp [1], E. Lofquist [2] is connected with adaptability to adapt to macro trends. The formation of an adaptation strategy previously documented in the writings of R. Miles and C. Snow [4]. Approaches to the structuring adaptive potential and methodical principles of its revealed definition in the writings of O. Gonchar [5], T. Oliynyk [6] and others.

However, despite the undeniability of the investigated issues, the vast majority of scientists in their scientific developments emphasized the individual problems of adaptation of domestic enterprises to external changes and emphasized the role of adaptive approach in Improving the efficiency of economic development of both a separate enterprise and the national economy as a whole. Therefore, today the field of scientific vision still has a sharp question about forming of adaptive strategy of economic development of enterprises in conditions of strengthening of integration calls.

By adaptation G. Kozachenko [7] understands the process of directed change of criteria, structural composition and signs of economic actors caused by the transformational processes of the business environment. E. Chizhenkova [8] notes that adaptation reveals the process of adapting business entities to the influence of the risks of the external environment of operation. Scientist V. Dubchak [9] notes that adaptation is the result of the process of adapting the company to the conditions of operation. According to S.A. Kravchenko [10], adaptation is a set of ways of

survival of economic actors in a competitive environment.

Despite the significant divergence of views, the unity of these ideas about the specifics of adaptation, in our opinion, lies in the fact that only the adaptation of Ukrainian enterprises to market transformations and European integration challenges provides the possibility of achieving the company's priority goals for economic development, and therefore serves as an objective basis for realizing its economic potential.

It should be noted that the development and implementation of the economic potential of Ukraine in the conditions of strengthening of integration calls are especially intensified and need increased attention in the scientific research to outline the strategic vectors Economic growth of the national economy in the context of sectors, as well as individual enterprises, which, in turn, will help to eliminate the negative dynamics of the international trade relations of Ukraine in general [7].

As the current practice confirms, [3] the main position in the world markets is usually owned by developed countries (USA, Japan, Great Britain, Germany, China, Singapore), which actually regulate the terms of commodity exchange in the international arena and are not Interested in the emergence of new competitors.

According to the results of the World Economic Forum Ukraine, the global adaptation index 2016-2017 has placed 79 places among 140 countries, having lost three positions in the year (in the previous rating, took the 76-in position) (Table 1).

Table 1

Dynamics of changes in Ukraine's position in the rating according to the global Adaptation process index [11]

2011-2012 (from 139 countries)	2012-2013 (from 142 countries)	2013-2014 (from 139 countries)	2014-2015 (from 139 countries)	2015-2016 (from 139 countries)	2016-2017 (from 139 countries)
89	82	73	84	76	79

According to expert assessment the range of problematic factors of realization of economic potential of domestic enterprises, in particular Agrofood sphere is defined, among which in descending order allocated: corruption, unavailability to financial resources, Inflation, political instability, high tax rates, inefficient state bureaucracy, complexity of tax legislation, regulation of the foreign exchange market, the frequent change of governments, restrictive labor market regulation, insufficient ability to Innovation, inappropriate quality of infrastructure, crime and theft, low quality of health, insufficient education and poor ethics of manpower [10].

As in world markets, the main positions reserved by the high-tech countries, Ukraine in international exchange can be a proposal for only relatively cheap agro-food resources. That is why to implement the strategy of «export breakthrough » Ukraine needs to evolve according to the principles of innovative euro oriented economic policy. Under these conditions, the issue of effective mobilization of

domestic capacities of the national economy, including agro-food enterprises, on the basis of implementation of adaptive mechanism in the concept of economic potential implementation is especially actualized. Which is to become the modern paradigm of economic development of agro-food enterprises in the conditions of globalization and European integration.

The main prerequisite for the unstable economic situation in the country can be considered political events in 2013, which resulted in the national economy a number of completely new in nature of obstacles, the elimination of which negatively acts as Economic growth of the national economy as a whole and economic development of each enterprise. This situation only activates the need to strengthen the adaptive capabilities of enterprises and to develop scientific and reasonable approaches to solving economic problems, the solution of which will be based on consolidation of calls to European integration processes and Priorities of business unit's development [6].

To ensure the interaction of theoretical developments with the modern paradigm of economic development and the realities of global market transformations in the mechanism of management of the adaptive development of Ukrainian enterprises, the dominant should be integrated Elements of the adaptive system, dialectical correlation of which will ensure the ability of the enterprise to more effectively and adequately react to the transformational processes of the institutional environment by using the system of organizational, economic and Social regulators to ensure long-term economic growth. It should be noted that in order to ensure a dynamic equilibrium of economic development in the coordinated coherent interaction between the enterprise with a natural, technological and socio-economic circle, the dialectical interrelation between the elements of the management mechanism Adaptive development should be subordinate to the laws of consolidation on the basis of qualitative changes in the ways of organizing Ukrainian production, technology used, adapting the organizational structure to the conditions of business space and forms of interaction with [9].

The role and essence of the elements of the mechanism of management of the adaptive development of Ukrainian enterprises and their ability adaptive response to European integration challenges outline the following scenarios of their economic development: scenario Conservative response policy; Active response policy scenario; Mixed response policy scenario.

Adaptive reaction for a conservative response policy is characterized by forced and local signs, in other words, in the economic development of the enterprise the changes only occur in the case of delivered of the choice.

The most adapted to market changes and challenges of European integration processes is the scenario of active response policy, based on the use of various models of adaptation in accordance with the influence of transformation processes and their level of gravity for economic Development of the enterprise.

A mixed response policy scenario takes into account only the general aspects of

the enterprise's behavior in transformational change, whereas its adaptive response is determined by the force of risk uncertainties: at low intensity of impact use of adaptive behavior is quite superficial, and with intensive-principles of adaptive behavior is largely used in the realization of the economic potential of the enterprise.

The processes of conservative adaptation of the enterprise are naturally connected with the Anticipation effect, and the processes of active adaptation – with the mechanism of adaptive development, as the possibilities of the enterprise to self-organization and self-regulation, activation which will Growth of economic potential in the short term, and in the long term – maximizing the market value of business. If the economic development strategy of the enterprise is adapted to transformational changes in the market space, it is constant, and the process of economic homeostasis is achievable [4].

Development of methodological aspects of management of the adaptive development of enterprises requires consideration of: complexity and diversity of production processes; Risk-uncertainties of internal and external business environment; The presence and interdependence of formalized and non-formalized priority purposes of implementing the economic potential of Ukrainian enterprises; Methods, methods and criteria of evaluation.

It should be noted that in the process of adaptation of the Ukrainian enterprises, the stages of development and implementation of adaptive mechanism must meet the priority goals of implementing the economic potential traceability Enterprises (Fig. 1).

One of the mechanisms of the conception of economic potential of Ukrainian enterprises is an adaptive mechanism, structural composition of which is represented by the aggregate of the interconnected economic, organizational, technical and technological components, and Also, social and organizational methods, integrated with the principles of social responsibility, coordinating the economic development of the enterprise in the conditions of the risk-uncertainties of market space [10].

Subject to a timely prediction of the effects of risk-uncertainties on the implementation of economic potential, the enterprise activates an adequate response management mechanism for the anticipated and inevitable changes in the business environment, whereas Resource flows and capacity-building capabilities are used for the purpose of implementing the adaptation mechanism, which outlines the capacities of the traceability enterprise to adapt to the transformational changes of the business environment.

However, activity of the enterprise is connected with decision-making on choice and substantiation of strategy of realization of economic potential of enterprise in conditions of incomplete information support, that is why one of decisive factors which should be considered in the adaptive mechanism, is a measure of failure and risk of a certain situation, which causes the value of failure and risk, localization and minimization of which depend on the efficiency of the mechanism of ensuring Protection of the economic interests of traceability enterprise [8].

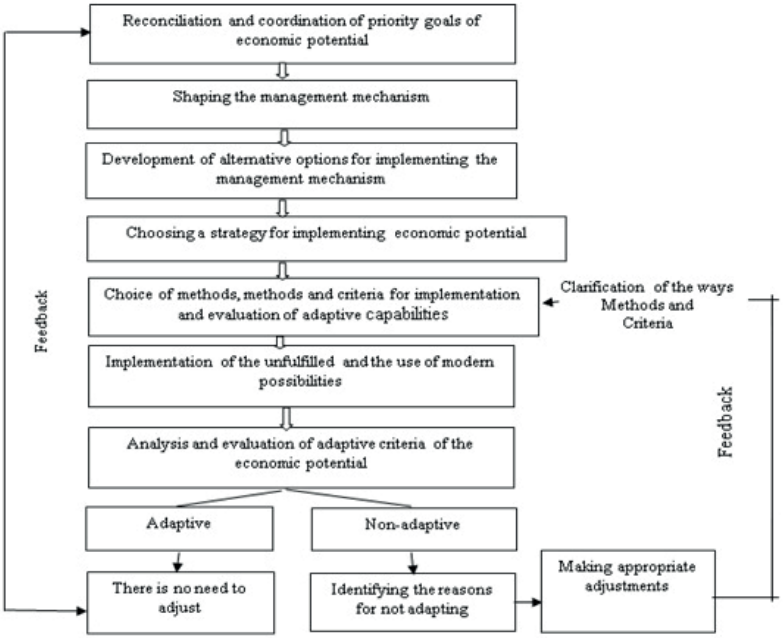

Fig. 1. Stages of development of the mechanism of management of adaptive development of enterprises

Developed by the authors

Under present conditions the transition to a fundamentally new model of economic development of the enterprise is carried out – adaptive, based on integration processes and integrating enterprises into strategic alliances based on the use of global Information systems.

Based on the principles of forming the mechanism of management of the Adaptive Development of the advisable requirements to be put forward in the process of developing a strategy for implementing the economic potential of the enterprise, taking into account the established country Specifics of economic and legal field development. At this , the concept of forming a mechanism of management of the Adaptive Development of the enterprise is based on three main dominant: the economic potential of the enterprise is an open complex system, which are inherent Stochastic signs; Interrelation and interdependence of risk-uncertainties of business-environment, components, subblocks and all over the whole system; The purpose of forming the adaptive mechanism of implementing the economic potential of Ukrainian enterprises is to ensure sustainability, security and ability to adapt to market transformations on European integration challenges.

Development of Methodological aspects of the mechanism of management of

the adaptive Development of Ukrainian Enterprises requires consideration:

- complexity and variety of production processes;
- acts risk-uncertainties internal and external business environment;
- presence and interdependence of formalized and non-formalized priority goals for the implementation of economic potential;
- ways and methods of their implementation, as well as evaluation criteria.

The implementation of the mechanism of management of adaptive development in the concept of realizing the economic potential of enterprises in terms of European integration challenges outlines the following tasks of economic development:

1) ensuring appropriate protection of the economic interests of traceability enterprises at the expense of localization of the risk-uncertainties and factors of European integration;

2) development of competitive advantages of the enterprise on the basis of its increasing capacity to adapt to possible changes of business environment and European integration challenges;

3) achieving priority goals of implementing the economic potential of the traceability enterprise on the basis of its ability to effectively use the resource flows of each structure-forming block of economic potential and Core competencies during the adaptation.

Structure composition of the developed mechanism of management of Adaptive Development in the concept of realization of economic potential of the enterprise is represented by the totality of interrelated organizational and economic forms, of methods and means to achieve achievement of the priority goals of its economic development by increasing the enterprise's ability to react to risk uncertainties and adapt to market changes.

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RESEARCH OF THE METHODICAL APPROACHES CONTENT TO ASSESSMENT OF DOMESTIC ENTERPRISES COMPETITIVENESS LEVEL

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Competitiveness in the conditions of globalization is the most important criterion of the enterprise effective functioning in the region and the country, a condition for effective economic activity, a basis for selection of approaches and methods of business activity and a key to successful competition. So, the issue of methodological approaches to assessing competitiveness of enterprises of the different industries is highly important at present stage of the Ukrainian economy development.

Analysis of the scientific sources showed that V. Kovalska [5], Z. Herasymchuk [1] study the problem of competitiveness of the regions and develop mechanisms for their improvement. The works of O. Vykhansky [2], R. Fatkhutdinov [10] and others are devoted to the classification of the competitiveness level indicators, assessment of competitiveness of products and an individual enterprise. But, scientists still have not had the common opinion on the definition of "competitiveness", methodical approaches to assessing competitiveness of enterprises, efficiency of using certain methods in the process of their implementation, a substantiated system of indicators for determination of economic entities competitiveness.

In our study, competitiveness is the property of the system elements that are characterized by the ability of enterprise's potential to adapt to regional entities and the peculiarities of their development, quickly responding to the environment

challenges, taking into account the promising trends of changes to restore the economic system. Thus, competitiveness is a complex enterprise characteristic that reflects the ability and potential of an enterprise to adapt to the non-deterministic market conditions and affects the effectiveness of its economic activity.

We emphasize that the competitiveness of any enterprise can be determined through a system of competitive advantages of the different levels.

Generalization of the scientists' points of view allowed to define the following structural elements of the system of the competitive advantages indicators: the sufficiency of the strategic potential for the implementation of expanded reproduction and increased socio-economic efficiency; availability of innovation potential for development and its quality; stability of the competitive position on the market; availability of resource potential of the company and the effectiveness of its usage; possession of intangible assets that create "barriers" of entrance to the industry; profitability of capital; quality level and products assortment; availability of resources (material, labor, financial, information); the level of environmental balance; availability of developed infrastructure; a level of institutional support, etc. [9. p.47];

The theoretical analysis of scientific sources showed that such methodical approaches of assessment of enterprise competitivenes as a structural (sectoral) approach; a functional approach; a procedural and target approach are the most up-to-date [2. p. 54; 1. p. 67; 10. p. 28].

Application of these approaches requires consideration of the following principles [7. p. 15]: complexity, systemicity, objectivity, authenticity, adequacy, openness and transparency.

Let's consider the approaches and their application efficiency in the modern conditions of domestic enterprises functioning in more details.

To our mind, the assessment of enterprise competitiveness is, first of all, a comparative analysis. Therefore, it is necessary to start it using the structural (sectoral) approach.

The structural (sectoral) approach implies division of all factors of the external environment, affecting the results of the enterprise activity, into two groups: the factors of the macroenvironment and the microenvironment and their by elementary assessment. Thus, the macroenvironment factors should be assessed according to the following elements: state of the economy (according to the general economic indicators); legal economic management; political processes; environment and resources; social and cultural factors; scientific and technological process and a level of innovation development; infrastructure (market, industrial, social); trade unions; international factors; government bodies; the tax system; policy of state regulation of the economy; national factors; regional factors; educational factors, etc. [6. p. 24].

The most substantial research on characteristics of the main groups of the microenvironment elements and the methodological basis for the analysis of the

industry structure was first offered by M. Porter. According to Porter's model, the microenvironment consists of a number of «competitive forces» having a double influence. It is necessary to say that the phenomenon of double influence is manifested in the fact that, these competitive forces make threats to enterprise functioning on the one hand, and create prior conditions for improving its effectiveness and competitiveness on the other hand. Assessment of the enterprise competitiveness using the structural approach involves three successive stages: the environment scanning; the environment monitoring; forecasting the future state of the environment.

Single-criteria and multi-criteria approaches can be applied for calculations at each stage. Single-criteria approach is based on the certain key success factor, for example, on the market (demand) growth or the type of the enterprise activity and its assessment.

The complex indicators of the competitive status of enterprise are calculated in order to assess the competitive position of enterprises on the market according to the multi-criteria approach.

Scientists offer two approaches to their calculation. The essence of the first approach is that the competitive status of the enterprise and the attractiveness of the economy sector in which it operates are assessed by the general system of the external factors (for example, market capacity, market growth prospects, industry profitability, technology, inflation rate, legislation, social, environmental, political, legal factors, etc.).

This indicator is assessed in points, by calculating the total weighted estimates of the influence of all external factors on the enterprise competitive position on the market.

The importance of the factor determines its relative rank, the significance for the attractiveness of the enterprise activity and the prospects for enterprise competitiveness increase; grade system of factors characterizes the intensity (force) of the factors influence on the competitiveness level.

The second approach is more complicated, but more accurate, because it is based on a more detailed and differentiated system of assessment of the factors influence on formation of the activity attractiveness for the enterprise in general and the prospects for competitiveness increase in particular. Thus, procedures for assessing the activity attractiveness and opportunities for increasing enterprise competitiveness are as follows: the groups of factors that have a significant impact on enterprise competitiveness are determined; the key indicators and their importance are defined for each group; the weighted value for each indicator group is calculated.

A complex indicator is calculated by the formula 1 [2. p. 68]:

$$K = a*G + b*P + c*O - d*T$$

where G, P, O, T are complex indicators for assessing the growth of demand, changes in profitability, opportunities and threats in the strategic economic centres, respectively; a, b, c, d is importance share of the coefficient of each factor relative contribution to formation of the competitiveness level and market attractiveness (a+b+ c+d=1).

It should be noted that the key factors in the formation of enterprise competitiveness and the grading scale (in points) for each enterprise and each specific sector of the economy should be determined by a group of experts individually. The importance of each individual coefficient depends primarily on the stage of enterprise life cycle and the field of its functioning.

Such methods of strategic analysis as PEST-analysis and SWOT-analysis [2. p.115] are often used for application of a structural approach to assess the enterprise competitiveness.

The peculiarity of using PEST-analysis is the assessment of the external environment influence on enterprise competitiveness according to the following groups of indicators: society (change of basic values, change of the living standard and life style, attitude to work and off-work time, demography, changes in income structure), technology (state innovation policy, technological changes in production, the speed of renewal of products and technologies assortment, etc.), economy (general state of the economy, inflation rate, dynamics of export-import, national currency stability, etc.) politics (legislation change, elections of the President, Verkhovna Rada elections, state sectoral regulation, etc.).

SWOT-analysis allows to generalize the situation at the enterprise and on the market, to see the prospects and threats for enterprise functioning, to identify the weak and strong points of the enterprise in comparison with the strongest competitor. The implementation of such an analysis can be described as a process consisting of the following stages: identification of strengths and weaknesses; identification of opportunities and risks; formulation of strategic alternatives to create the competitive advantages through the use of opportunities provided by the external environment, the strengths of the enterprise activity and the use of weak points in the competitor activity; formulation of the strategic alternatives to reduce the negative impact of risks on the enterprise activity; formulation of strategic alternatives to eliminate the weaknesses in enterprise activity.

The methodology of criteria assessment is used for calculation of indicators by methods of PEST-analysis and SWOT-analysis. This methodology has been described above.

A functional approach to the assessment of competitiveness involves structuring of the analysis objects in two directions: the type of activity and the functional affiliation of the subdivision. Matrix methods of strategic analysis: the Boston Consulting Group matrix, GE/McKinsey matrix, Shell/DPM matrix, etc are usually used to determine the competitiveness of certain types of activity of a multi-business enterprise. The matrix methods for assessing the enterprise competitiveness are

based on the matrix tables construction, in which the enterprise business position is determined by the certain indicators. The values of these indicators are reflected on the coordinate axes. For example, the BCG matrix involves the construction of a coordinate system based on the results of two indicators calculation: the market (demand) growth rate is on the vertical axis and producer's market share is on the horizontal axis. The main disadvantages of the BCG matrix are: consideration of only two criteria for assessing business competitiveness; market growth rates do not always objectively assess market attractiveness; relative market share does not always precisely characterize enterprise competitive status; interconnection between different activities of the firm, that is, synergetic effect is not taken into account.

It is necessary to say that the GE-McKinsey matrix has a wider application area and a more flexible approach to the determination of the enterprise competitiveness according to the types of its activity. Complex indicator of market attractiveness and complex indicator of enterprise competitiveness (competitive status of the enterprise) are used in the process of constructing the GE-McKinsey matrix. This allows to take into account more factors while assessing enterprise competitiveness. But this method is not perfect and has some disadvantages, namely: the possibility of active influence of the enterprise on the external environment is not taken into account; it is assumed that the future can be predicted rather accurate; unclear recommendations; a need for large amount of information in order to assess the parameters of the matrix factors [3. p.191].

The application of a functional approach to the assessment of competitiveness requires the structuring of the analysis objects according to the functional affiliation of subdivisions and further evaluation of each subdivision effectiveness. In our opinion, a method based on the theory of the effective competition is the most efficient [2. p.75].

Analysis of the scientific sources showed that the enterprises with well-organized work of all subdivisions and services are the most competitive ones according to this theory. Proceeding from the fact that such types of functional activity as production, financial, product (services) sales and promotion and quality management can be distinguished in any business area, it is possible to assess the level of enterprise competitiveness by calculating the integral indicator of competitiveness, which will take into account the results of each subdivision activity.

Integral coefficient of enterprise competitiveness is calculated by the formula 2 [2. p. 89]:

$$Ккп = 0{,}15 * Ев + 0{,}29 * Фп + 0{,}23 * Ез + 0{,}33 * Кт$$

where 0.15; 0.29; 0.23; 0.33 are coefficients of the strength of criteria; is a value of the criterion of enterprise production activity efficiency; is a value of the criterion of the enterprise financial position; is a value of the criterion of

effectiveness of products sales and promotion on the market; is a value of the product competitiveness criterion.

It is necesary to take into account certain indicators in order to calculate individual criteria for the effectiveness indicators.

We emphasize that the methods describing the level of enterprise financial and economic activity: financial and economic analysis; forecasting the financial enterprise position, etc should be used for the further assessment of enterprise competitiveness [8. p. 87].

The procedural and program-oriented approach to assessing enterprise competitiveness involves the study and asessment of the formulation of goals process, development and peculiarities of application of a strategic set of enterprises. The GAP-analysis method, LOTS-analysis method, benchmarking method, SPACE-analysis method are the best methods for implementation of this approach.

It should be noted that the GAP-analysis provides an opportunity to determine the methods of management and development of a strategy that can bring the company's business to the highest level of its senior management and owners objectives and ensure a high level of competitiveness.

Concentration of attention on the fact that each organization has to develop and adapt its competitive advantages and actions to buyers' demands is a peculiarity of LOTS analysis.

The LOTS methodology involves a deep, consistent discussion of such problems and areas of enterprise activity: current state of affairs, development strategies; strategic goals, short-term goals, methods and objects of the analysis, personnel potential; system of the development plans, organizations and a level of management and accountability.

The benchmarking method is considered to be the most modern approach to studying the peculiarities of business and the application of strategies and strategic behavior of a competitor, which is successfully used in the practical and research activity of entrepreneurs and scientists [4. p. 185]. Peculiarity of benchmarking is a system-wide character, with a clear focus on achieving a better level; applied orientation on the achievement of competitive advantages.

SPACE-analysis is a method of assessing the enterprise environment in order to determine the competitiveness of the enterprise strategy. This assessment is based on the identified strengths and weaknesses, threats and opportunities. With the help of SPACE-matrix, it is possible to determine the strategy that the organization is using without even guessing about it, that is very valuable in today competitive conditions of domestic enterprises functioning.

So, consideration of the most advanced approaches of assessment of enterprise competitiveness and the methods used to implement them relates to all the main organizational components, including personnel structure, employment, qualifications, technology, equipment, products, which are affected by the environmental factors. Therefore, the starting point for competitiveness increase is

the development of a strategy for such an increase. The process of competitiveness improvement requires consideration of the interconnection specificity both between the elements of the organization and with their environment as well. It is also a decision-making process (including goals, methods, plans) for competitiveness improvement, and this, in turn, requires application of different approaches to assess enterprises competitiveness depending on the purpose of such an assessment.

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SYSTEM APPROACH TO MANAGEMENT AGRICULTURAL ENTERPRISE

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Agrarian enterprises are a complex, which functions through an effective management mechanism. The current state of market relations in the economy, high level of competition and uncertainty predetermine significant changes in the management of the enterprise, and especially in the system of agrarian production.

System planning does not involve solving problems, but rather the permission to exist, with the constant redefinition of them through the learning process. Therefore, planning is understood not as a discrete activity, but as a continuously developing process. The system approach implies that the future is uncertain and can not be foreseen, based on the present or the past. The emphasis is on creating alternative scenarios for the future based on today's actions, rather than simply adapting to what the future brings [6].

The essence of the system approach to managing an agrarian enterprise is as follows:

- formulation of goals and establishment of their hierarchy before the beginning of management activity;
- To obtain maximum effect, that is, achievement of the set goals by comparative analysis of alternative ways and methods of achieving goals and choices;
- quantitative assessment of goals and means of achieving them, based on a comprehensive assessment of all possible and planned outcomes of activities [10].

The system approach implies observance of the basic laws of the system, namely [15]:

1. Compositions, that is, reconciliation of the common and private purpose.
2. Proportionality. Internal proportionality should be combined with external proportionality, that is, the corresponding level of development of elements of the environment.
3. Respect for the «bottleneck», where particular attention is paid to the weakest element of the system.
4. Ontogenesis, taking into account the sequence of stages of the life cycle of the enterprise (goods).
5. Integrations that direct the system to a high level of organization and allow for a synergistic effect.
6. Awareness that highlights information provision as a prerequisite for competitiveness.
7. Sustainability, which sets requirements for system construction (static state)

and its functioning (dynamic state).

The need for a systematic approach is due to:

1) the complication of the internal structure of management objects;

2) expansion and branching of connections;

3) rapid and continuous growth of the volume of information;

4) the instability of the environment;

5) intensification of competition.

The undoubted advantage of a systematic approach is to focus on poorly structured problems, to search for an optimal solution for their solution [14].

Such problems arise at the level of complex systems. The control system is based on the main four properties, the other properties are additional, to some extent, they are the characteristics of the main, and therefore there is a need to use the system approach (Table 1).

Table 1

System approach to management of agrarian enterprises

Name	Content
System defining properties	
Hierarchy	some elements of the management system belong simultaneously to several farm management systems.
Completeness	the system covers the required number of elements that are complementary and ensure the effectiveness of the process of managing cost of production.
Determinism	the system functions under the influence of factors in the presence of causal relationships.
Synergy	the control system has certain properties that are not specific to individual elements.
System characteristics	
Adaptability	preparedness of the management system for the influence of external changes.
Dynamism	time change.
Reliability	continuity of the work process in violation of elements.
Immersion	liability centers have some specific objectives, but they do not contradict and provide effective management.
Integrity	not elements create a cost management system, and the system is formed by relation to the elements.
Interdependence	interaction with other systems and control elements.
Purposefulness	effective management as a component of the productive activity of the agrarian enterprise in general.
Education	the ability to improve with respect to environmental change.

The basis of the systematic planning of the agrarian enterprise is information on both production activity and external changes, and the result is the rationality of the management system, which forms and ensures the efficiency of the functioning of the entire agrarian enterprise [4].

Strategic planning as one of the methods of forecasting the phenomena of social life and economic processes in the system of agrarian production is based on the strategic foresight of the external environment and adaptation to its changes, distribution of production resources and assessment of strategic potential, coordination of the internal economic structure on the basis of portfolio analysis methods.

Preservation of the characteristics and properties of the management system of the agrarian enterprise is mainly due to the internal component. Hence, the fact that the basis for the effective functioning of the control system is the formation of its main elements and the interconnections between them.

Since the agrarian enterprise management system is an open complex, it operates under the influence of external and internal factors, and the principle of adaptability allows it to react in a timely manner and to function effectively, with changes both in the middle of the enterprise and externally, preserving existing properties and characteristics.

Factors of the external and internal environment are not enough structured set, then in order to group them into a ranked row, in our opinion it is expedient to use the method of pair comparisons created on the basis of multidimensional scaling [9].

Table 2

Scale of relative importance

Incompatibility	Value	Content
1	equal importance	equal contribution of the agrarian enterprise
3	moderate advantage of one leverage over another	slight advantage one direction over another
5	significant advantage	quite a significant advantage over one another over the other direction
7	strong advantage	the advantage of one direction overlaps the practical significance of another
9	very significant advantage	impairment of one of the directions
2, 4, 6, 8	intermediate solutions between neighboring values	used in compromise cases
inverse quantities	when comparing one line of activity with another result will be given veleshin, while comparing the second direction with the first one will receive the reverse cell.	

The research will be carried out according to the steps below.

Stage No. 1. Definition of the goal. Clarification of the extent of the influence of a number of investigated factors on the level of efficiency of the management system of the agrarian enterprise.

Stage No. 2. Field of Restrictions. Finding the set of factors that directly affect the efficiency of the production management system.

Stage No. 3. Creation of a matrix of pair comparisons relative to the scale (Table 2).

Stage No. 4. Calculation of the product of the obtained points of pair comparisons for each row of the matrix.

Stage No. 5. From the received data, we calculate the root of the 20th degree (the number of selected factors).

Stage No.6. Summary of received calculations.

Stage No. 7. Next, determine the level of each factor of influence (%) by calculating the ratio of each component separately to the total.

Stage No. 8. Construction of a number of priority factors that have a strong influence on the management system of agrarian enterprises.

Stage No. 9. Analysis of the semantic value of the received priority series. The whole process is subject to verification and rethinking until it is certain that the process has captured all the important characteristics necessary for the presentation and resolution of the problem.

The details of the factors of internal and external influence on the efficiency of the management system of agrarian enterprises are presented in Table 3.

Analyzing the received priority number of factors of influence in Table 3, it should be noted that internal factors of influence are more significant than external ones. More important is not only the whole group of factors, but also the average value of each of them. This fact is substantiated by the fact that the process of managing an agrarian enterprise is more closely interconnected with the internal environment of farms, and therefore it is more determined by it.

The calculations confirmed the highest importance of internal factors such as the quality of information flows (13,5 %) and methodological provision of the management system (13,2 %), which emphasizes the need for high information provision, as well as tools and methods of processing for the formation of effective management, with this and the interconnected accounting policy of agrarian enterprises (12,0 %).

Factors organizational structure and technology of production have close estimates (6,2 % and 5,9 % respectively), since the organizational structure defines the implementation of the organizational management function, and the production technology forms the object of management. Among all internal factors of influence, technical support (1,4 %) was recognized as the least significant, but this degree of influence only indicates a low level relative to other internal factors, and not the insignificance of this indicator.

Table 3

Degrees of influence of factors on management of agrarian enterprises

№	Internal factors	Degree of influence, %	№	External factors	Degree of influence, %
1	quality of information flows	13,5	1	standardization level	10,0
2	methodical support	13,2	2	market conditions	5,0
3	accounting policy	12,0	3	government grants	4,2
4	the organizational structure	6,2	4	demand for products	2,1
5	production technology	5,9	5	international programs	1,4
6	qualification of employees	5,5	6	level of information support	1,3
7	assortment	4,9	7	tax policy	1,2
8	level of specialization	4,1	8	infrastructure of the region	1,1
9	size of the enterprise	3,8	9	inflation rate	0,5
10	legal form	2,7	Together		26,8
11	technical support	1,4			
Together		73,2			

Regarding the importance of external factors, the highest level of standardization of products (10.0%), since the requirements for products mainly form the composition and structure. Significant factors are market conditions (5.0%) and demand for products (2.1%). The most insignificant is the level of inflation (0.5%), which is taken into account only when planning costs, but it is impossible to reduce its impact on the management system of the agrarian enterprise.

The system approach to the rational formation of elements will not create a mechanism for effective management of the agrarian enterprise, since the main place in the functioning of the control system belongs to interconnections.

As the study of the factors influencing the management system of the agrarian enterprise showed, the most influential are the quality of information flows and the methodical provision of the management process. In essence, these factors are the informational interconnections of the management system [7].

From the point of view of system planning, agribusinesses are a complex system based on subsystems and a high-level subsystem of the industry. The system approach to the study of the agrarian production process allows to distinguish certain internal and external factors that have an impact on the organizational structure, functional distribution and, most importantly, on the financial result.

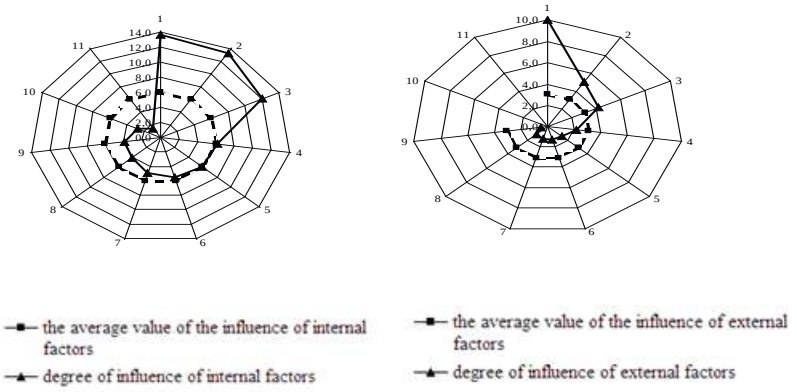

Fig. 1. Matrix of factors influencing the management system of agrarian enterprises

In the conditions of instability, the use of a systematic approach in the management of an agrarian enterprise allows the complex to assess the degree of implementation of management tasks, adjust them by terms, volumes, end results, correlate the goals of current and strategic management, establish the relationship between the execution of tasks and the opportunity to achieve a strategic goal of development, reducing the gap between the developed strategy and the actual processes occurring in the process of implementing the financial and economic activities of the enterprise [11].

Market transformations in Ukraine, the need to reorient the agrarian enterprises in order to produce competitive products, require significant investments. Efficient management of such enterprises requires a systematic approach. Often, beyond the scope of the research, questions remain about determining the parameters of the participation of the subsystems of the organization in agreeing development goals, directions of interaction, means of transformation, communication management and actions of individual subsystems in decision-making and their implementation in the process of management activities, which are associated with a holistic approach to solving complex tasks.

Consequently, the systematic approach in the management of an agrarian enterprise involves such management, which as a result solves systematically the system tasks that are integrated into the subsystem, taking into account the time management period, resource components, development prospects, risks. Application of this approach will prevent the development of crisis phenomena in the process of operation of the enterprise, since the management system is aimed at prediction, timely response and prevention of such phenomena.

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PART 4. THE LEGAL, SOCIOCULTURAL AND EDUCATIONAL ASPECTS OF SOCIETY MANAGEMENT

INFORMATION AND ANALYTICAL SUPPORT FOR SELECTION OF FORMS OF ORGANIZATIONAL LEARNING AT AN ENTERPRISE

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Effective functioning and further development of national enterprises are possible only with the use of an effective management mechanism, an important component of which is HR management. Qualified staff is one of the main factors in the formation and maintenance of enterprise competitiveness. In the conditions of rapid development and constant growth of the available information, the organizational learning of the personnel becomes more and more relevant, because it allows to avoid aging of knowledge and to improve the adaptability of the enterprise as a whole.

Many researchers considered the issues of organizational training, such as: T.Alftan, A. Aleksiuk, I.Bondar, D. Bohynia, O. Baranova, S.Batyshev, L.Herhanov, O.Hura, M.Drozach, V. Dzhyford, A.Yehorshyn, V.Yevdokymov, P.Zhuravlov, I.Zaiukov, A.Kapska, Dzh. Kilinh, I. Kovalenko, A. Kolot, O.Kuzmin, Y. Lipsits, B.Laport, D.Melnychuk, N.Nychkalo, B.Omelianenko, V.Pshennikov, F.Rodzhers, V.Savchenko, M.Semykina, V.Spivak, N.Skorobahatov, S.Stryzhov, Yu.Shvalb, Dzh. Shveitser, O.Yaroshenko ect.

Recently, more and more diverse organizational tools and techniques are emerging, which is largely due to the development of information technology. They have their advantages and disadvantages, and useful for the development of specific competencies of employees. In addition, it should be noted that the learning methods also vary greatly between different categories of staff. Therefore, the process of choosing forms of training for specific groups of employees is very important, in order to maximize the effect of training activities.

All learning methods can be divided into two large groups: - on-the-job learning; - off-the-job learning.

On-the-job learning is characterized by direct interaction with everyday work. It is cheaper and more efficient and facilitates entry into the educational process of workers who are not accustomed to studying in classrooms. Learning within the organization can include an external teacher's invitation to meet the specific training needs of the employee. On the other hand, the purpose and order of study,

in this case, can be lost under the current work and rigid period [9, p. 42]. This group includes the following learning methods: instruction, copying, mentoring, rotation, delegation, method of complicated tasks.

Off-the-job learning includes all types of training outside of the organization. Such methods allow separating workers for a certain period from the daily work activity. The learning process in this case is planned better [9, p. 46]. It includes the following methods: training of sensitivity, lectures, modelling, case studies, role games, business games, open learning, distance learning. Besides, a number of other classifications are existing (Table 1).

Table 1

Classification of methods of organizational learning

Classification	Learning methods
1. By activity of the listener	1. Passive 2. Active
2. By duration of learning	1. Short-term training - no more than 5 days 2. Medium-term study - no more than 6 months 3. Long-term - training more than 6 months
3. By the level of motivation	1. Methods of unmotivated learning - should be applied to an employee who does not understand the need of training, the dependence of his professional development on the results of training 2. Methods of motivated learning - should be used in relation to persons who want to study, and understand the necessity of professional development 3. Self-learning - is the highest level of motivation, when a person independently understands the importance of learning, there is a specific need that it seeks to satisfy through learning
4. By target group	1. Individual - it is conducted with only one employee according to an individual program 2. Group - is carried out for a certain group of workers with similar learning needs
5. By category of employees	1. Training of managers 2. Training of specialist 3. Training of workers
6. By way of realization	1. Own company forces 2. Invitation of consulting firm
7. By the combination of learning and work activities	1. With the leaving the production - during the training the employee is relieved of his duties 2. Without leaving the production - during the training the worker combines learning with the job
9. By the use of information technology	1. Traditional learning 2. Distance learning 3. Simulation learning

Source: developed by authors on the basis of [1, 8]

Table 2

Advantages and disadvantages of organizational learning methods

Learning method	Advantages	Disadvantages	Competencies
In basket technique	High level of motivation; development of abilities for analysis of employees	Employee involvement; requires significant funds	Communication skills, strategic thinking, organizational skills
Shadowing	Simplicity and economy; adaptation of the employee to a new type of activity	Employee involvement; significant duration; long-awaited results	Technical skills, customer orientation, striving for development
Secondment	Employees get personal development opportunity; acquires diverse experience in projects; gaining new skills and experience	Employee involvement; a long period of implementation; needs a lot of expenses	Stress resistance, strategic thinking, objectivity
Budding	Employees get the objective information about their work; creating interactive communication; improving interpersonal skills; equality	The difficulty of choosing a mentor; employee involvement	Ability to solve conflicts, communication skills, ability to work in a team
Coaching	Personal development of employees; Strengthening teamwork: improving interpersonal communication skills	Employee involvement; significant duration; long-awaited results	Initiative, leadership, creative thinking
Case study	Ability to compare different points of view; promotes the active use of knowledge and skills	It takes a lot of time to solve problems and tasks; employee involvement; requires significant funds	Ability to work in a team, strategic thinking, focus on results
Business game	Acquiring the ability to analyse and make decisions, simulate situations; reducing the likelihood of errors in real situations	The need for thorough preparation of the game scenario; high communicative skills of the person who conducts it is required	Creative thinking, communication skills, leadership
Distance learning	Ability to attract a large number of employees; the opportunity for employees to choose a convenient time to study; the possibility of fixing the learning process on electronic media	High level of technical equipment is required; lack of personal contact with the teacher	Focus on results, autonomy, technical skills

Source: developed by authors on the basis of [2, 6, 11].

It should be noted that in order to achieve the maximum effectiveness of organizational learning of the personnel company should not be limited in the use of its forms or methods, and apply their combination to achieve maximum effect. In addition, in the selection process, attention should be paid to what competencies should be developed within these activities (Table 2).

Considering the diversity of learning methods, it is very important to choose one of them or their combination that will be the most appropriate in a particular situation for a particular category of workers.

A significant role in this process is played by two factors: motivation of the employee for training and his professional maturity. They determine the extent to which the administrative impact on the training of this employee is needed, how much he is ready for self-learning, which methods should be used. The matrix, which reflects the relationship between the given factors, was built (Fig. 1).

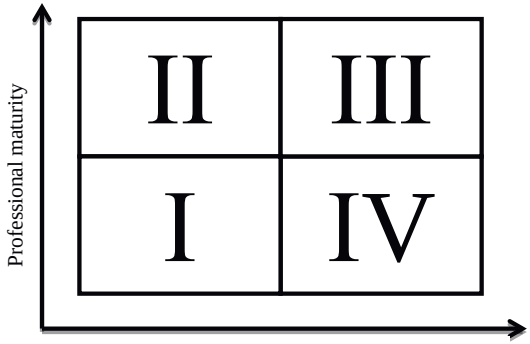

Fig. 1. The matrix of the relationship between the professional maturity and the motivation of the employee for training
Source: developed by authors

Each of the quadrants has its own peculiarities in terms of the category of workers who can get into it, and accordingly, to the choice of learning methods to be applied in one or another case. For the distribution of employees between quadrants, the evaluation is conducted, resulting in an integrated score of 1 to 10. The use of this tool requires a survey among the employees for whom the training plan is being developed. This tool allows dividing the employees in different categories and according to them to choose the learning method that will be most effective.

Quadrant I: employees who fall into this quadrant are likely to be newcomers to organization, but they do not have a strong motivation, so they are rather passive about their own adaptation at the enterprise. Therefore, it is important for such workers to organize training with external stimulation, such as mentoring.

Quadrant II: This quadrant may include workers close to burnout. They are professionally mature, but are not motivated for further development; do not understand

the need for education. Therefore, in this case, it is necessary to take measures that could return interest, for example, such method as Secondment can be used.

Quadrant III: the quadrant is made up of workers who are the most experienced and motivated, so they understand by themselves what knowledge is necessary, and they can independently make suggestions on learning activities, besides, for them the self-learning is given to the foreground and the task of the enterprise to provide them with the materials necessary for this purpose.

Quadrant IV: employees who fall in the quadrant are usually newcomers or workers who are not yet sufficiently qualified and experienced, but are very motivated to develop. Therefore, it is important for the enterprise to provide them with the ability to obtain the necessary skills and abilities, for example, such method as Shadowing can be used.

In modern conditions, it is critically important for enterprises to update the knowledge of their own personnel constantly, as this allows them to form new competitive advantages and use more innovative technologies in their activities. In order to achieve the maximum effect from organizational learning, it is very significant to choose its specific forms. This process can be improved by using matrix methods that allow you to take into account the individual characteristics of employees and form the most effective training plan for them.

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ASSESSMENT OF LEADERSHIP ABILITIES IN THE CONTEXT OF INTERNATIONAL ECONOMIC RELATIONS

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One of the most important tasks of modern education and business is the search for leaders and the development of their abilities. The main feature of the leader is his ability to create an image of the future in his imagination and lead other people on the way of transforming the imaginary image into reality. As leadership is directly aimed at the future, leading companies in the world today are teaching top managers of senior management leadership skills. This calls for the study and analysis of leadership qualities of both ordinary people and outstanding personalities of our time.

Despite the fact that it is impossible to teach any leader to be a leader, it is possible to identify and develop in each person the features of character and ability inherent to the leader, quite possibly, as some researchers believe Bass B. (Bass B.), Broadbeck F. (Brodbeck F.), Bublyk M., Viday A., Kalnitskaya K., Parigin B., Peterson M., Smith P., House R., Schwartz S. (Schwartz S.) and others. [1-25]. As it is customary to consider in work [3], it is leadership that is caused by the opposition to the official leadership, the system of established values, norms and social principles.

Kalnitsky K. [2] considers leadership as a way of improving the relationship between the leader and subordinates.

There is no universal understanding of leadership [21], because leadership features are characteristic of certain cultural values. The traditional feature of leaders born in the United States is the American values of individualism. Scientists also separately distinguish psychological characteristics of the leader's personality, as well as socio-psychological features of the situation in which the leader was.

Investigating the outstanding figure of G. Newell, among his main leader rice can be distinguished: 1) Risk; 2) perseverance; 3) responsibility; 4) the ability to

apply sanctions and reward; 4) the ability (personal) to decisive action.

Evidence of such features by G. Newell is his act - he left his studies at Harvard University for a career in Microsoft, which, in fact, proved to be successful - he has reached the level of the «Millionaire Microsoft.»

The success of leaders is characterized by the following features: high levels of energy, resistance to stress, emotional maturity, honesty, self-confidence. It is the confirmation of these features that are facts from the biography of G. Newell. In 2007, Newell openly criticized the development of games under the console, and especially the PlayStation 3, saying it was «a waste of time for everybody» [14] as well as a «catastrophe at all levels ... I would even say, though so late that they should simply cancel it and close it. Just say: «It was a terrible mistake, we apologize and stop selling it, and stop stopping people from creating something for that» [15]. In 2010, G. Newell appeared on stage during the Sony presentation; having apologized for the preliminary comments on the development of the console, discussed the open nature of the PlayStation 3 platform, and also announced the Portal 2 for it, noting that with Steamworks support this would be the best version of all consoles [16].

G. Newell also criticized the Xbox Live service, calling it «a train wreck» [17]. At the LinuxCon conference in September 2013, it announced that in the future, Linux would be the main operating system under which the games will be developed, also announcing SteamBox - a new console from Valve, which is closely related to Linux, as well as criticizing the latest version. The operating system from Microsoft Windows 8, calling it «disaster» and a threat to the open world of PC gaming [18].

G. Newell can skillfully transform the submissions of the subordinates, forcing them to realize the importance and value of the results of labor, activating their higher needs (self-esteem, self-actualization). Also, G. Newell forces his followers to be distracted from personal interests for the sake of the interests of the cause, which leads them to trust and respect, which motivates them to perform a greater amount of work than they were originally going to perform. Interesting is the fact that G. Newell played a lot in Resident Evil 2 and Super Mario 64 [13] to gain inspiration for the design of some parts of Half-Life.

G. Newell is also characterized by such features: authority, desire for freedom of action, instruction of subordinates, ability to motivate subordinates, maintain effective relations, responsibility for decision-making.

The leader must use some aspects of the special exchange. There is no need to treat all subordinates equally, but everyone must feel that they are valued and respected as a member of a team (organization) and that he is not a «citizen of a different kind». Namely these features are not inherent to G. Newell: tact, desire to emphasize the value of each employee, building friendly relations.

In general, often the emphasis is on leadership skills, as opposed to the possession of certain personal qualities. These skills include: knowledge of your business, technology and equipment, the ability to analyze complex events and grasp tendencies; Recognize changes and identify problems; the ability to maintain a cooperative

relationship, as well as the ability to persuade. However, the relative significance of most of the specific skills significantly depends on the situation in which the leader was. Here, the ability to rational persuasion, inspiration, counseling, ability to cause commitment to oneself, ability to appeal to a person, communication, ability to form a coalition, to exercise pressure, to justify actions, etc., are already important.

Table 1

Assessment of leadership abilities by G. Newell

№	The name of leadership abilities	Score scale
1.	Individualism	3
2.	Personal ability to take decisive action	4
3.	The desire for freedom of action	5
4.	Persistence	2
5.	Responsibility for making decisions	3
6.	Risk	5
7.	Tact	1
8.	Authority	5
9.	Diplomacy	1
10.	Social sensitivity	2
11.	Ability to persuade	4
12.	Ability to listen	4
13.	Ability to transform the submissions of subordinates	3
14.	Ability to activate in subordinates self-esteem, self-actualization	4
15.	Ability to motivate subordinates to work for the cause	5
16.	Ability to apply sanctions and reward	4
17.	Ability to instruct subordinates	3
18.	Ability to maintain effective relationships	4
19.	Ability to emphasize the value of each employee	1
20.	Ability to build friendly relations with subordinates	3
21.	Knowledge of your business, technology and equipment	4
22.	Ability to analyze complex events and grasp tendencies	5
23.	Ability to recognize changes and identify problems	5
24.	Ability to maintain cooperation relationships	3

Note: evaluated by authors, where 0 is the absence of features, 5 is the most striking feature of the feature

It should also highlight the following qualities inherent in G. Newell's tact, diplomacy, listening skills, social sensitivity, which the programmer used to develop

favorable relationships with subordinates, equal or higher rank.

The list of the main leader traits of G. Newell and their evaluation on a scale scale from 0 to 5 is shown in Table 1.

G. Newell most clearly manifested features: riskiness, desire for freedom of action, authority, ability to motivate subordinates to work for the cause, ability to analyze complex events and grasp tendencies, the ability to recognize changes and identify problems (all received an assessment – 5). Almost absent (weakly inherent) in the figure of G. Newell there are features: tact, diplomacy and ability to emphasize the value of each employee (all received an estimate – 1).

Of the 24 leader traits of personal qualities, G. Newell describes 12 rice, 8 rice relate to subordinates, and only 4 features describe his professional knowledge and skills.

The results of the evaluation of leadership features showed that the fig. 1.

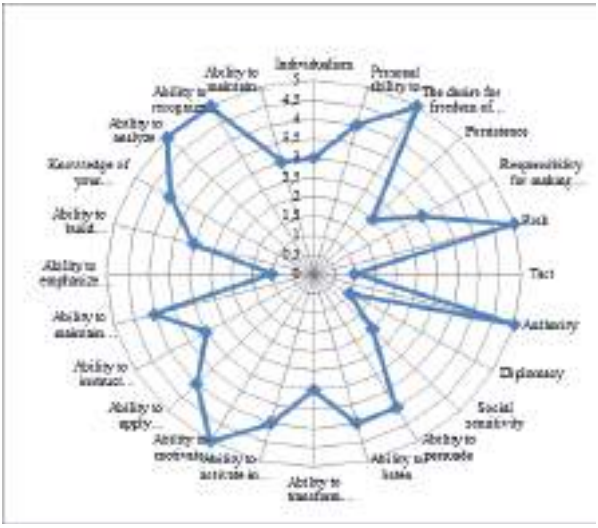

Fig. 1. Results of the evaluation of leadership features of G. Newell
Note: proposed by authors

Thus, among the special leadership features characteristic of G. Newell, there is a traditional feature of the leaders born in the USA, namely: the American value of individualism.

Consequently, the researches made it possible to state that leadership should be understood as the relations of dominance and subordination, influence and follow-up in the system of interpersonal relations in the group. Leadership as a process and a means of organizing group activities, aimed at achieving goals in optimal terms and with the optimal effect. The main feature of the leader is his ability to create an image of the future in his imagination and lead other people on the way of transforming the imaginary image into reality.

Among the special leadership features characteristic of G. Newell, there is the traditional feature of the leaders born in the USA, namely: the American value of individualism. In the process of research and evaluation of leader traits, the figure of G. Newell revealed that his character most clearly shows the following features: riskiness, desire for freedom of action, authority, ability to motivate subordinates to work for the cause, ability to analyze difficult events and grasp tendencies, ability to recognize changes and identify problems. Characteristic weaknesses in the figure of G. Newell are features: tact, diplomacy and ability to emphasize the value of each employee. Of the 24 leader traits of personal qualities, G. Newell describes 12 rice, 8 rice relate to subordinates, and only 4 features describe his professional knowledge and skills.

Leaders do not make important decisions in place until a critical situation has developed. When dealing with routine problems, effective leaders are guided by long-term goals and strategies. Leaders with a wide range of specialist knowledge and advanced cognitive skills are more likely to make successful decisions. Self-confidence, resistance to uncertainty and stress also help the leader to cope with responsibility for making important decisions in the absence of complete information. Every person has his own prototype of the leader (that is, an idea of what the leader should be), which helps her to evaluate real leaders. Thus, the «effectiveness» of leadership is not determined objectively, but through the justification of expectations.

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PROVIDING TRAINING FOR PERSONS FOR PUBLIC ADMINISTRATION

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Technical progress, the informatization of society, social transformations and the change of values are reflected in the system of public administration, but, unfortunately, they do not give it perfection. The question of the professional characteristics of a civil servant, his personal qualities and training are not only relevant but also debatable. Can a person's civil service be without a professional education? What is more important in management: strict adherence to laws (rules) or the availability of certain freedom to make decisions? Is it possible to allow foreigners to be governed by the state and create an exclusion system for obtaining citizenship?

What should be a priority in making decisions: the rights and freedoms of an individual or the interests of the state? These and many other, more practical issues still do not have a clear answer in the theory of public administration, so each country, building a civil service system, is guided by both the theoretical positions and the traditions and historical experience of managing state affairs, which was influenced by many factors. It is clear only (and this is noted by the researchers) that there is a rethinking of the role of public administration, which acquires the signs of totalitarianism. Y. N. Harari writes that «... 7 billions of sapiens are less dependent on the whims of nature, but are increasingly subject to the diktat of industry and management systems» (here and thereafter translation from the Russian language – T. M. Lozynska [1, p. 425].

Harari observes that in the conditions of capitalism, the management of public

relations is carried out on the basis of the interaction of market and state functions and their constant review. At the same time, «quite often the market exploits a person, and the state uses the army, police and bureaucracy not to protect man, but to oppress» [1, p. 436]. The high morale of the officials and the ethics of their behavior are still an unattainable ideal and attract much attention from academics in the process of reforming the civil service [2; 3; 4], especially in view of the choice of values of European democracy as benchmarks for the construction of modern Ukrainian statehood. There is a public demand for state bureaucracy officials to be more in line with the liberal style of governance and to show respect for human rights, but in this case, citizens should also demonstrate models of high social consciousness. Otherwise, in line with the democratic way of forming power, we will not be able to provide for the selection of state officials of persons with certain professional and personal qualities.

T. Vasilevska notes: «In a situation where demands that do not find a response in society, nevertheless, will be realized in the sphere of executive power, there is a real danger of separation of the axiological system of civil service from the dominant values of society, from the mental installations of the people» [4]. Thus, the construction of the civil service system in Ukraine and the provision of its highly skilled personnel during the period of transformation of social values is a challenge for the young state. And it is unlikely that, with the implementation of a number of tasks of the staffing of the civil service, a possible return to the instructions of N. Machiavelli regarding the fact that the ruler has «<... induce fear and love for the people ...>, <... should not keep his promises ...>», it is not necessary «It is imperative to follow the peace, if he speaks of it, etc. [5]. At the same time, one cannot but cause sympathy with other views of the Florentine philosopher: that the ruler must think and realize great intentions; to encourage citizens to calmly give in to trade, craft or agriculture, to organize their possessions, without fearing that they will be taken by someone; to be an example of liberality and generosity; behave with counselors so that they are not afraid to express themselves [5].

The success of reforms in other spheres of socio-economic life of the country will depend to a large extent on the way in which and for what purpose they will make decisions in the system of state power, that is, the reform of the civil service is extremely important for the further development of the state. It should also be borne in mind that in the process of decentralization of management, requirements for officials of local self-government bodies are transferred to which a significant part of life-saving powers are transferred at the local level, hence the creation of a system of training for the entire sphere of public administration. This peculiarity of the present is taken into account by the main institution that performs functional management of the civil service, the National Agency of Ukraine for Civil Service, which carries out professional training of civil servants and officials of local self-government. In recent years, there has been a decrease in the number of civil servants and officials of local self-government in Ukraine, which is connected with the streamlining of

the structure of the civil service and the reduction of administrative-territorial units as a result of the association of territorial communities (Fig.1). At the same time, the quality of the staffing of the civil service becomes much more important in view of the complexity of the tasks of bringing Ukraine to a sustainable development trajectory. The Action Plan on the Implementation of the Association Agreement with the European Union, approved by the Resolution of the Cabinet of Ministers of Ukraine dated October 25, 2017 No. 1106 [6], provides for the introduction of new principles of the civil service, which largely relate to personnel policy and training as a component of it. The main directions of the reform of the civil service are also evidenced by its focus on improving staffing:

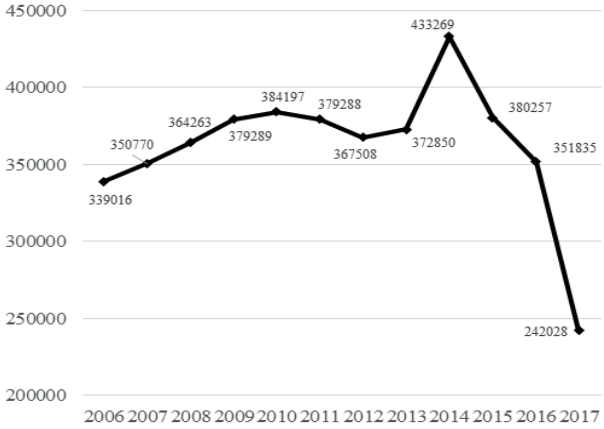

Fig. 1. Dynamics of the number of civil servants and officials of local self-government in Ukraine, 2006-2017, persons
Source: built according to the National Agency for Civil Service of Ukraine.

- construction of professional, uncorrupted, prestigious, oriented to the needs of citizens of the civil service;
- separation of policy from administration;
- introduction of a competent human resources management model;
- harmonization of civil service and service in local self-government bodies;
- introduction of a transparent model of remuneration and career motivation of civil servants;
- staffing of the decentralization process [7].

Higher requirements for the professionalism of civil servants determine the need for continuous training, retraining and advanced training, which, in turn, requires a high enough motivation for officials to study and provide appropriate incentives in the process of their career development. The basic requirements for the training of civil servants and local self-government officials are regulated at the legislative level

[8]. Since 2015, the monopoly of the National Academy of Public Administration under the President of Ukraine for the training of civil servants collapses in Ukraine, and from 2019 - a monopoly of budget institutions for retraining and raising the skills of civil servants. At present, the training of specialists in the field of public administration under the various educational and professional programs of higher education «bachelor», «magister» and «doctor of philosophy» carry out institutions of higher education of Ukraine of state and private ownership, which received a license for this. According to the Resolution of the Cabinet of Ministers of Ukraine dated February 6, 2019 No. 106, the subjects of the provision of advanced training services are recognized not only organizations of state and communal ownership, as it was before, but also «natural or legal persons (educational institution, enterprise, institution, organization any form of ownership) who conduct educational activities; international and foreign institutions, organizations implementing relevant programs, projects of international technical assistance «[9]. The response to such innovations, as always, is ambiguous, but open-access reviews require some comments. In particular, the conclusion is reached regarding the low quality of educational and professional programs, which are carried out training of specialists in public administration in the system of institutes of the National Academy of Public Administration under the President of Ukraine [10], which has not been substantiated.

To date, the Academy has focused on the best specialists, some of them, after 2015, went to work in other institutions of higher education, but if they are criticized for forming poor quality (by what criteria?) educational programs, then where to find specialists, who will do it better? There is no reason to argue that the dispersal of specialists and resources from other, in particular private, institutions will automatically bring educational programs in line with the urgent needs of the civil service. Similar statements only reflect the expectation of positive changes in personnel training for the public administration, but are not the result of a thorough analysis of the status of the existing system, reflecting the voluntarist nature of the decision. Perhaps the correct solution is correct, but its correctness is not proven, which always causes doubts and resistance. The statements of certain public figures and politicians regarding the growth of the number of civil servants are not sufficiently correct, which, firstly, is not affirmed by statistical data (Fig. 1), and, secondly, the conclusion is made without regard to any criterion. In this regard, it is advisable to refer to the results of the study of Professor A. Khaletska, who gives the given data number of officials around the world (table 1).

For example, J. Grekov notes that as a result of the reform of the civil service of Great Britain, the integrity of the system was destroyed and the prestige of the civil service was undermined [11], and the reason is seen by the author in the run-up to the reform of the civil service compared to the real state of social relations.

Table 1

It is given (on 1 official) the number of citizens in individual countries of the world, persons

Country	Population, million people	Number of civil servants, thousand people	Number of citizens per one official, persons
Belarus	9,5	53,7	176
Estonia	1,3	26,0	50
China	1340,0	70000,0	19
Latvia	2,3	88,3	26
Lithuania	3,3	20,0	165
Germany	83,2	507,5	163
Russia	141,9	996,6	140
USA	309,0	2101,2	147
Ukraine	42,0	242,0	173
France	61,0	320,0	190

Source: systematized and refined according to the data: [10].

In this regard, it is fair to conclude that the public service should not outstrip the real state of social relations and the level of development of the society from which it takes personnel and which is called to govern [12]. In the case of only formal borrowing of civil service models and training for it, there is not only a preservation, but also accumulation of personnel policy shortcomings under the guise of reforms.

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ANALYSIS ON THE CURRENT SITUATION AND COUNTERMEASURES OF THE DEVELOPMENT OF THE ELDERLY HUMAN RESOURCES IN CHINA

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According to the statistical bulletin of China's national economic and social development in 2018, at the end of 2018, the total population of the mainland China was 1,139.38 million, and the population over 60 was 249.49million, accounting for 17.9%of the total population, of which the population aged 65 and above was 16,658, accounting for the total population11.9% [1]. Based on the current age of population aging, experts predict that by 2020, the number of elderly people over the age of 80 will increase rapidly, and is expected to exceed 30 million. By 2025, the total number of elderly people in China will reach 300 million, thus entering the super-aged country [2]. Since 2014, the working-age population has begun to decrease, and the demographic dividend has gradually disappeared, which means that the peak of China's population aging and the reduction of the labor force in the young and strong years (see chart 1). Therefore, the shortage of labor force will become an important factor that restricts the development of China's economy and society. This is also a huge challenge that China will face now and in the future.

The 60-69-year-old younger people are large in scale and have a high health rate. They are the main targets for the development of the elder human resources. In 2018, the number of elderly people aged 60-69 in China is 140 million, and in 2030, it will exceed 200 million [3]. Based on the latest World Health organization (WHO) 2018 edition of World Health Statistics, the life expectancy of Chinese people is 76.4 years [4]. The human resources of the young and old after 60 years old, which are huge in scale, are potential huge treasure house of human resources.

However, from the perspective of depth and breadth, the development of China's old labor resources is very low. Very few people continue to engage in social work after retirement, which inflects in the relatively low employment rate of the elderly. As they grow older, physical conditions become the first obstacle to restrict the

elderly to continue to participate in work. Therefore it is more important to develop intellectual resources of the elderly.

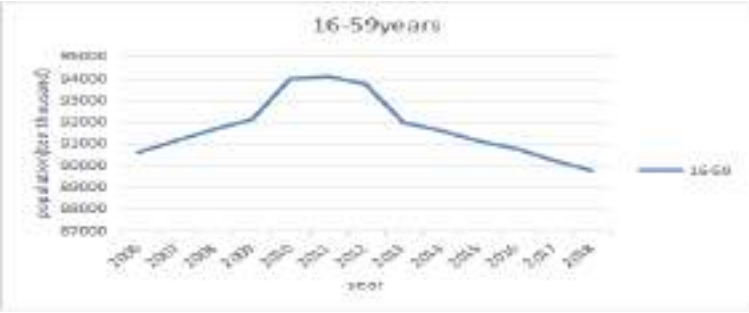

Fig. 1. Changes in China's working-age population from 2006 to 2018
Source: Statistical bulletin of the People's Republic of China on national economic and social development 2006-2018

At present, in China, the living status of the elderly over 60 years old is reflected in the following aspects: First, they look after the grandchildren or grandchildren at home. Looking after grandchildren or grandchildren is a very common phenomenon in our society, which distinguishes from foreign countries. Second, they are in a state of «complete retirement». Among them, there are many high-tech and high-skilled talents who have not been fully utilized. Therefore, a large amount of old-age labors have been wasted which lead directly to the shortage of labor in China while the large number of elderly people in China have not been exploited and utilized.

The development of the elderly resources plays the very important role in society. However, there are still a lot of difficulties in the development of the elderly resources. First, the scientific and cultural knowledge of the elderly needs to be updated and improved. The college entrance examination system was reinstated in 1977, but the number of students admitted was only 270,000 [5]. Among the elderly over 60 years old in China, most of the college students who have retired have a relatively backward knowledge structure. Except them, the same as the middle-aged and high school-aged seniors, which objectively restricts their re-employment.

Second, the supply of education resources for the elderly is seriously inadequate, which is unfavorable for updating the knowledge of the elderly. According to relevant data, in 2016, China's total human capital was 1675 trillion RMB [6] in terms of the value of that year, but there is still a big gap in terms of the proportion of international human capital density not less than 7%. The problem of lack of senior human capital is more serious, and the number of it is decreasing. Most of the intellectuals at higher levels are over 45 years old, which reflects the shortage of human capital in China. Lack of human capital and human resources have impeded the process of rejuvenating the country through science and education. Therefore,

development of the elderly labor resources can meet the needs of economic development and compensate for the human capital gap.

However, the urban-rural distribution is extremely uncoordinated, and there are few old-age universities in the countryside. In 2018, the number of elderly people in the country was 249.49 million, of which only 8 million were studied in relevant educational institutions, accounting for only 3% of the elderly population. According to data released by the China Association of Senior Citizens, there are more than 70,000 educational institutions for the elderly, including universities [7]. But for the whole country, older universities are still overwhelmingly in short supply. The old universities are solving the problem of insufficient supply through remote lectures. At present, there are 5 million elderly people who participate in distance education, but it still cannot meet the educational needs of the elderly. Moreover, good universities for the elderly are scarce. A large number of elderly people unable to enter the universities because of barriers to entry. Therefore, it is difficult to some extent to update the knowledge for the elderly.

Third, the government is short of specific national plans. In recent years, scholars have made endless suggestions for the development of the elderly resources. In addition to delaying the retirement policy, the state has not responded positively. The current Law on the Protection of the Rights and Interests of the Elderly in China is only for the protection of the basic life of the elderly. It does not involve the issue of re-employment of the elderly, nor provides specific laws for the re-employment of the elderly. The right of the elderly to re-employment has not been confirmed by law, so that their re-employment has not received the support and recognition of the society, which also makes it natural for society to exclude the elderly from the social labor resources. Especially for the government, it has no corresponding guidance and specific plan on how to make full use of and develop the resources of the elderly. The development of the elderly resources in China is still in a loose and spontaneous disorder. Therefore, the state should introduce relevant policies and plans as soon as possible in order to promote the rational resources of the elderly.

Fourth, there is no policy support for employers. Some employers can provide suitable jobs for the elderly. However, due to the relatively weak physical strength of the elderly, it is difficult to completely avoid the incidence during their work. Once the elderly are sick in the workplace, the employer necessarily needs certain civil liability which will become a heavy burden especially for some small and medium-size enterprises. Therefore, this makes the employer so discouraged that it is rare to hire older people in practice without systematic policy support for employers. Considering the intellectual and physical advantages of young adult labor force, many companies and enterprises prefer to exclude older people. In the specific operation, the labor relationship between the elderly and the employer needs to be supported by the policy. Otherwise, that the health factor of the elderly not only increases the employment risk of the unit, but also lacks the actual protection for the elderly who are re-employed which makes hiring the elderly become a piece

of paper.

Based on previous difficulties, several measures should be taken in order to promote the elderly labor resources development (see Fig 2). First, strengthening the construction of laws and regulations and improving the system. The legislature must strengthen the formulation of laws to ensure that the elderly are not discriminated against in the course of their work and that their labor rights are not deprived. In order to allow the elderly to have a retirement buffer period, while implementing the existing labor access system, an appropriate labor withdrawal system should also be established, which can help enterprises and individuals recover unnecessary losses.

Second, strengthening the market more market-oriented and expanding the channels for reemployment of the elderly. Bai Yansong, a member of the national committee of the Chinese people's political consultative conference (CPPCC), analyzed China's current population situation during the two sessions in 2018. He proposed to launch a pilot program to the employment market for the elderly [8]. The state council has issued a notice on the 13th five-year national plan for the development of undertakings for the aged and the construction of an old-age care system.

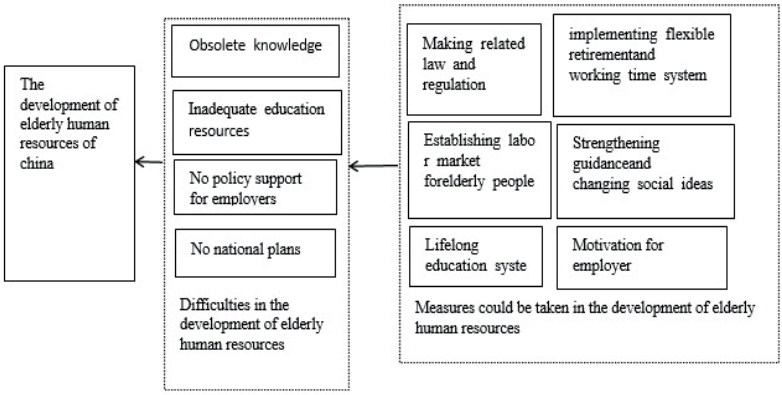

Fig. 2. System of development of elderly human resources of China
Source: adopted by author according with [8, 9, 10, 11, 12]

We will incorporate the development and utilization of elderly talents into the overall plans for building talent teams at all levels, and encourage local governments to formulate special plans for the development and utilization of elderly talents according to the notice [9].

On the other hand, the elderly should unite actively and establish a group organization which can guarantee the interests of the elderly. Therefore, the elderly can form organizations such as senior citizens associations, actively participate in social activities, improve themselves for re-employment.

Third, developing old-age education and building a lifelong education system.

In the 13th Five-Year Plan (2016-2020), the Chinese government mentioned the promotion of the development of old-age learning. At least one old-age university is opened in cities above the county level, and 50% of towns will have old-age schools. The 30% of administrative villages will establish old-age learning points, and the proportion of the elderly who regularly participate in educational activities in various forms accounts for more than 20% of the total number of elderly people. If this plan can be achieved, by 2020, at least 50 million elderly people will study in a senior university or educational institution, which will greatly improve the education level and quality of the elderly [10]. In February 2018, the national office on aging and other 14 departments decided to jointly carry out national education on population aging in the whole society to promote the development of education for the elderly. Approved by the Chinese society of gerontology and geriatrics, Mr. Gao Shuping, vice chairman of the geriatric education branch and chairman of Peking University medical university times education committee, released the «national education plan for the elderly», which include thousands of talents training plan and putting the theory of education for the elderly into practice [11]. The implementation of these plans will greatly promote the development of China's elderly education in future.

Fourth, implementing flexible retirement and working time system. The characteristics of the resources of the elderly determine that we must adopt a flexible retirement age system and a flexible working time system. On the one hand, China's current law stipulates that the retirement age is 60 for men and 50 for women. In fact, the higher the degree, the shorter the working life, especially for women, which is a great waste of the development and utilization of human resources. On the other hand, the level of social productivity is constantly improving. Many experienced seniors will leave their jobs and bring losses to enterprises and society. Therefore, the adjustment of the retirement age is very necessary, especially for the female labor force, which can be appropriately adjusted according to the industry, region and type of work and appropriately extend the retirement age of the elderly. Considering the actual needs of enterprises, they can learn from the German practice, fulfill the flexible retirement system, and replace the mandatory working hours with flexible working hours [12].

Fifth, the government should play a guiding role in promoting the reemployment of the elderly. At present, people still have some misunderstanding that is «uselessness», «package theory», and «theory of robbing bowl of the youth». A large number of cases show that the elderly can have a positive attitude towards life without being completely out of social labor, and can truly feel the joy of life. Therefore, it is necessary to carry out various media propaganda, increase the propaganda of the significance of the development of the elderly labor resources, mobilize the organizations and people in the society to support and promote this work, and create a good social atmosphere for the development of the elderly labor resources in China. For those with special skills, they have the ability and opportunity to continue working without special train. Therefore, increasing the development and utilization of this part of the elderly will

be significant for alleviation of labor supply and demand inadequacy and economic development. Secondly, there is no contradiction with young people to seize the post. Most of the occupations of older workers require a great deal of experience and expertise, which most young people lack. The combination of the elderly and the young labor force can effectively fill job vacancies and further develop the elderly human resources while meeting social needs.

Sixth, tax incentives for enterprises that employ older people. To encourage businesses to hire more old people, it is suggested that government should set up preferential tax system by law for employing the elderly in our country in which different levels of tax incentives are given to businesses depending on the number of older people employed. It can not only greatly improve enterprise hiring older people's enthusiasm, thus pushing more young adult labors move to more suitable positions more suited to their physical conditions, but also help reduce the increasing pressure to corporate tax in recent years [12].

In a word, the development of elderly human resources is of great significance to alleviate the labor shortage caused by the aging of China, promote the physical and mental health of the elderly, alleviate the burden of social pensions and the financial pressure of the country, help young people adapt to the job as soon as possible, compensate for China's human capital gap and alleviate the talent crisis. Therefore, the government should make a good plan, formulate relevant laws and regulations, and enterprises should take feasible management measures to develop the elder resources positively.

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FEATURES OF DEVELOPMENT OF CORPORATE SOCIAL RESPONSIBILITY OF BUSINESS IN UKRAINE

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Strategic objective of numerous social and economic reforms and transformations in Ukraine is creation of the state of general welfare in which all social needs of citizens are satisfied and also conditions for realization of their potential are created. In recent years the concept of the state of general welfare is more and more connected with more global concepts of human development and the human capital which implementation is one of priority activities of the international community. Provisions of these concepts have to take root in all spheres of a social and economic system. Important means of their implementation is business structures. Acts as one of conditions of implementation of the Concept of human development and the human capital introduction and observance of bases of social responsibility of business (SRB), both large, and small and middle.

Let's notice that to various aspects of such phenomenon as the corporate social responsibility (CSR) in Ukraine and in the former Soviet Union devoted a significant amount of scientific publications. In particular, the continuum of views about essence of CSR is analysed in articles of R. Abramov [1], L.S. Belyavskaya [2],

E.Yu. Berezina [3]. Numerous interpretations of content of social responsibility of business are closely connected with the aspiration to realize and classify by CSR determined by models international experience of realization (A. Yu. Berezina [4], E. Yukholin [5], etc.).

Separately it is necessary to mark out scientists who focused on studying of features of the Ukrainian model of realization of corporate social responsibility: V. Vorobey [6] - determination of prospects of development of CSR and the offer on acceptance of National strategy of CSR; O.A. Grishnova [7] - a role of social responsibility in overcoming an economic crisis; M.I. Carlin [8] – relation CSR with the general social policy of the state; L. Petrashko [9] – participation of the Ukrainian companies in the Global Compact of the UNO.

As we see, the phenomenon of CSR is not on the periphery of scientific studios. However studying of CSR in Ukraine mainly concentrates around problems of sustainable economic development and effective management. At the same time there are not enough researches on social responsibility of business. Nearly the only exception is A.V. Mazurik's publications on problems of social audit which allows to measure degree of CSR [10]. Results of sociological polls concerning understanding and the attitude towards social responsibility of business are presented in A.N. Balakireva's articles [11], A.A. Oliynyka [12]. So, the insignificant level of scientific readiness excited problems in sociology and its great public value caused relevance of research CSR of the enterprises of small and medium business in Ukraine.

The achievement of the put aim envisages the decision of such tasks: to find out the features of development of CSR in Ukraine; to define the level of legislative settlement of questions, regional features of introduction of CSR, business tendency to support of development of CSR, barriers that interfere with becoming of corporate social responsibility.

Unlike an occident with a withstand market economy, culture of enterprise and protracted traditions of social partnership Ukraine belongs to those states, where the processes of social-economic modernization have going after character, and transformation processes delayed on a few decades. Ukrainian realities have certain features. However Ukraine only at the beginning of way of construction of the system of social responsibility of business.

The main distinguishing feature of the Ukrainian model of CSR is that on regional and state levels social payment, mainly, is taken to a force participating of business in realization of the various social and cultural programs that partly are the sources of corruption. Although there are many social initiatives of businessmen, but often enough they have not strategic, but especially tactical aims. In particular, social initiatives are initiated by business on the eve of elections to the government of different levels bodies with the purpose of to bring over liking of citizens to the candidate.

The most Ukrainian scientists meet in opinion, that on the sources of adjusting, practice of forming and development a home variant of social responsibility is

by symbiosis of ingredients of the British (voluntarily initiation by business) and Continentally-European models (desire of enterprises to get clear behavior scopes from the state).

Definitely to it understanding of concept testifies corporate social responsibility by organization «Forum of socially responsible business of Ukraine», that considers that CSR, is «responsible attitude of any company toward the product or service, consumers, workers, partners; active social position of company, that consists in a harmonious coexistence, co-operation and permanent dialogue with a company, to participating in the decision of per acute social problems» [13].

In our view, the specific line of the Ukrainian model of SRB is connection of new social directions in activity of business with maintenance of soviet or even and pre-revolution traditions. In Ukraine the typical enough is remained by the role of personality, and in many new business structures that pass the stage of primitive accumulation of capital, is almost fortress dependence of workers on will of leaders and proprietors that by such method aim to strengthen dependence of personnel on a management, and top-managers from proprietors.

Among other features of the Ukrainian model of CSR it is possible to distinguish such: absence in Ukraine of ideology of socially responsible enterprise and high level of civil consciousness; a force character of social responsibility of business is in Ukraine.

As already marked higher, in Ukraine the state is played a key role in forming and stimulation of social responsibility of businessmen. Strategy of assistance to development of SRB develops in three directions:1) reform of taxation; 2) improvements of the pension system; 3) developments of innovative and scientific projects are by means of story chart of techno parks, that assumes favorable tax treatment.

Next to the programs of stimulation of practices of social responsibility of business their normatively-legal providing is developed. The row of the laws called to regulate activity in part of socially responsible behavior of companies operates in Ukraine [14-16]. However the real normative certificates outline the promises of enterprises only, not touching directly their voluntarily initiatives. Moreover, interpretation of CSR the Ukrainian legislation does not give.

And those stimuli that according to laws had to get companies, for example, on introduction of alternative energy sources, does not act in practice.

Let's notice what one of problems of slow development of CSR in Ukraine is not accounting of its advantages by the companies. Though such advantages are obvious what the matrix made by the Company "Sustainability" on the basis of the analysis of activity of the companies of Central and Eastern Europe testifies to [11].

In addition, it costs to mark that a situation with the input of social responsibility of business is different in the separate regions of Ukraine. Variables, that influence on forming of those or other forms of co-operation of business and power in regions and predetermine their differentiation, are, : resource base of region; dominant or dependent position of power is in a region (city); power or weakness of economic

participants; initiative or passive character of building co-operation of power is with business; readiness of power and business is to the mutual compromises.

In the conditions of the poor region interaction of the power and business is based on model of incidental cooperation. For it the lack of a strategic component in these relations, replacement with its incidental initiatives is defining from the power or business of rather joint participation in the solution of social problems - charitable point, separate actions for guardianship of boarding schools and children's shelters, participation in actions of assistance to orphan children, disabled people and citizens of advanced age and so forth. The weakness (including financial) of power in such regions results in a volume, that she mostly leans against informal contractual relationships with business and, as a rule, does not use a compulsion.

The weakness of resource base and power on places often comes forward as reason of low level of trust between parties of public mutual relations. The low level of trust forms the special requirements of business to power in case if power counts on realization of the social programs from the side of businessmen. These requirements are erected, as a rule, to two important positions: equality of investments and transparency of social charges that come true by power due to money of business.

In the rich regions of model of co-operation of power and business can acquire a different kind: their configuration in large part depends on readiness of power and business to the general actions, initiating of partners in the process of co-operation, from the willingness of power to bring over business to the decision of social problems of region.

Thus, it is possible to establish, that forms of realization of directions of social politics in rich and poor regions can be identical, and however strong power and powerful business assist appearance of more developed forms of social responsibility of business, than those that arise up in poor regions.

In a rich region at powerful companies that have necessary resources, a dominant value is acquired by three basic strategies: establishment of loyal relationships with power, forming of relations of trust of population, advancement of positive image of company, in the first turn on territory of the activity.

Thus establishment of relations of trust with local-authority and company afterwards acquires more system character, from separate eleemosynary shares, passing to support of the having a special purpose social programs, from realization of separate initiatives from the side of power - to participating in initiatives from below. Lately this support begins to come true within the framework of competitions of social projects [17].

In poor regions strategy of support of local communities is on the first stage of the development and erected, mainly, to the thesis to «help of scanty means». The basic form of realization is traditional charity.

Imaginary strategy of support of company that lately will be realized by business also has a tendency to further development. However already there are attempts through

introduction of this strategy to provide the high level of capitalization of business.

Will mark once again, that to exaggerate successes and achievements of development of CSR with Ukraine it does not cost. To the modest enough results of input of practices of socially responsible behavior of business the slow attaching of the Ukrainian companies testifies to the Global Compact of the UNO (GC of the UNO, or United Nations Global Compact). So in 2006-2008 in the conditions of the economy growing the amount of participants of GC of the UNO grew sufficiently smartly – from 30 to 71, or almost in 2, 5 times.

2009-2010 it was shown crisis, that initiative in assuming organizations obligations from steady development and responsibility before a company calmed down. After joining in 2011 to the Global contract 60 organizations the amount of new participants in next years grew very slowly.

The analysis of list of participants of the Global Compact of the UNO as the organization and a field of activity also allows defining features of social responsibility of business. It turns out that as of February, 2017 among those who joined the Global Compact of the UNO nearly a half (42.3%) are made by non-governmental organizations – the international and local, 9.5% – the organizations of the public sector. At the same time among participants of the contract only every seventh (14.3%) is the big company. Exactly as much and sub «objects of small and medium business. Besides, part in the Global Compact of the UNO is taken by 16 business associations (8.5% of the public) and 21 other organizations (11.1% of the public) – scientific educational institutions, funds, labor unions. So, as we see, among those organizations which show devotion to the international principles of social responsibility, the large, medium-sized and small companies make minority – 28.6% of the public. However, formal captures by the company on duties of the UNO's Global Compact in practice not always defines its intentions to work respectively and responsibly. In Ukraine according to the GRI standards (The Global Reporting Initiative is the reporting in the field of sustainable development) reports gave only five companies among which there are the "Donbas's fuel and energy company" (DTEK), "Met invest", "System Capital Management" (SCM), "Obolon" and "Nadra bank". Separate social reports give out or include some companies in the consolidated reporting, for the others the principles of the contract is especially declarative. More large-scale distribution the practicing of SRB in Ukraine faces a number of the barriers inherent as to the countries from close to the Ukrainian phase of development of SRB, and especially domestic: in Ukraine mechanisms of practical promotion of social responsibility of business, in particular financial are limited; The Distorted role of means mass information; Low organizational ability of groups of influence in Ukraine; the culture of cooperation is limited; need of adaptation international the practicing of SRB to the Ukrainian conditions; Lack of enough the acquainted, interested and competent managers of SRB. SRB in Ukraine runs into the row of barriers inherent to both the countries with near to Ukrainian the phase of development of SRB, and especially home:

in Ukraine limit mechanisms of practical encouragement of social responsibility of business, in particular financial; distorted role of facilities mass of information; subzero organizational possibility of groups of influence is in Ukraine; limit culture of collaboration; a necessity of adaptation of international practices of SRB is to the Ukrainian terms; absence of sufficient amount of acquainted, interested and competent in SRB of managers.

Thus, unlike an occident with a withstand market economy, culture of enterprise and protracted traditions of social partnership Ukraine belongs to those states, where the processes of social-economic modernization have going after character. Taking into account this forming of practices of social responsibility of business began far later, and practices, taking into account Ukrainian realities, have certain features.

In this connection successful introduction of ideas of social responsibility of business needs modernization a tax system (expansion of tax deductions), strengthening of fight against a corruption, alteration of informative politics with the aim of strengthening of inactivity and objectivity, adaptation of international practices, training of personals on questions organization of social responsibility of business.

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DEVELOPMENT OF SCHOOL AUTHORITIES' MANAGERIAL COMPETENCE IN CONTINUING EDUCATION

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Formulation of the problem. In the period of radical modernization of the Ukrainian education system, the problem of school authorities' managerial competence development and the formation of the leadership's corps of a new creative, innovative type, who are ready and capable to initiative and non-standard

managerial decisions becomes especially relevant. Therefore, the study of school authorities' professional competence is determined by the needs of the society in that it outpaces the educational and professional personal development of the base-level managers of school education as active subjects of culture, social and historical process. These requirements are due to a set of reasons:

- the structure of the needs of a rapidly changing society in general and its social institutions;
- technical progress, which determines the complex knowledge, skills and abilities requirements in professional and social activities;
- the information load increasing, on the background of which knowledge tends to quickly become outdated;
- the necessity of being able to «work in teams», to show readiness for cooperation and to orient themselves independently in related areas;
- the necessity of such qualities as the ability to take responsibility, the ability to independently think and act [1].

The analysis of the main research and publications. International Commission on Education in the XXI century came to the conclusion that the future progress of humankind was not so much related to economic growth, but more to the personal development level. UNESCO proposes to change from the classical concept of «human resources» to the concept of «human competence». This concept implies the maximum, mainstreaming the human interests: the acquisition of professional competence, knowledge, skills and abilities, which are necessary for the health protection and improvement, the culture development, environmental protection, competitiveness in the labor market.

The theoretical foundations of the manager's activity and raising his / her managerial competence have been reflected in the studies of V. Bondar, L. Danilenko, G. Yelnikova, V. Oliinyk, V. Piquelnya, T. Sorochan and others. So too has the analysis of the theories of managerial qualities (R. Krichevsky, L. Kudryashova, V. Lebedev, etc.), general principles of the theory of management in educational activities (L. Karamushka, L. Orban-Lemberk, J. Schwalb, etc.). However, despite the scientists' considerable attention to the problem of the education managers' professional competence formation, the issues of development of school authorities' managerial competence are still not sufficiently researched.

Aim of the Research. We aimed to make the case for development of school authorities' managerial competence at the postgraduate level, to consider approaches to the definition of the concept of «managerial competence» in the scientific and pedagogical literature and to identify the core elements of school authorities' managerial competence.

Main research results. Contemporary challenges, facing the education system in general as well as a particular educational institution in particular, put school administration specialists in a situation of the need to find new management tools and methods. Capacity development of national school staff is currently a state

educational policy priority.

Today, the demanded manager, who has a high level of managerial competence, provides a number of new functions, together with traditional functions, including: forecasting educational institution development, quality and change management, identifying and supporting innovation, their time and subordinates' time management, fundraising and marketing, brand management, etc.

The lack of the required level of managerial competence in the majority of managers seriously complicates their adaptation to the new activity conditions, carrying out the tasks of the education modernization and the successful transformation of organizations led by them into a new status [2].

In education there has been a lot of talk about the competent concept of the teaching and managerial personnel formation and development lately, therefore, we will examine the concepts of «competence» and «competency».

An analysis of the current scientific knowledge allows us to distinguish between these concepts: competence is a description of the personality potential state, and competency is a personality characteristic that manifests itself in real activity. On this basis, one can see that competency is a complex integral characteristic consisting of a complex of competences whose content is determined by the goals, tasks and activity nature [3].

Competence is a given social and professional requirement for the training of a specialist, which is necessary for effective professional activity. The manifestation of the competences availability is recorded only in the context of a real specific situation.

Competences formation and development is represented as the knowledge, skills and abilities formation in the formal and non-formal learning process, developing aptitudes and building the values in the training process and gaining experience in the process of professional activity, internships, informal education. Thus, the complex of competence formation can be imagined as the development of abilities, personal qualities and psychological resources of the individual and the acquisition of the cognitive component and experience in the educational process. At the same time, knowledge, skills and abilities become not goals, but are constantly improved by means of solving those or other professional tasks. In the Ukrainian pedagogical science, often the specialist's competency is considered from the point of view of the professional competences formation.

However, there are other approaches to leading assessing the manager's professionalism. For example, the American model of a competent employee focuses on the part of the spectrum of individual-psychological qualities, which includes autonomy, discipline and communication. The key point is also the need for self-development, the ability to set goals and work towards them.

In this case, the most important component of the employee's qualifications is the ability quickly and without conflict to adjust to specific working conditions and the dynamism of their change [4].

Competence has an activity character of the generalized skills in combination with the subject skills and knowledge in specific areas.

Competency is apparent in the ability to make a choice, based on an adequate self-assessment in a particular situation. If professional training will be understood as a professional development process, capturing the experience of future professional activities, then we can say that the competent specialist is future-oriented, envisaged changes, oriented to self-reliance education.

An important feature of the individual's professional competency is that the competency is realized in the present time, but it is oriented towards the future. During the study scientists and educators have clarified the understanding of the specialist's professional competency as a set of key, basic and special competencies [2], [3].

Key competencies are required for any professional activity; they are related to the individual's success in a changing world. That is why the key competencies are of particular importance today. They are apparent, first of all, in the ability to solve professional problems on the basis of the use of information, communication (including in foreign languages), socio-legal bases of personality behavior in civil society, moral values. To a great extent, key competencies include individual psychological personality traits.

Basic competencies reflect the specifics of a particular professional activity (pedagogical, medical, engineering, etc.). For the professional activity in the education field (pedagogical or managerial), the competencies necessary for «building up» professional activity in the context of the requirements to the system of education at a certain stage of society development will be basic. Here we must recall that administrators of educational institutions, who come into the field of education from business structures and from other economy branches must be specially trained for basic pedagogical competencies.

Special competencies reflect the specificity of a specific subject or super-subject area of professional activity. Special competencies can be considered as the realization of key and basic competences in the field of specific professional activities, including the formed additional competencies necessary to carry out certain tasks. In the case of headteacher's activity – it is a managerial competency [5].

All three types of competencies are interconnected and evolved simultaneously. It forms the individual style of activity (in this case managerial), creates an administrator's holistic image and ultimately ensures the formation of his / her professional competence as certain integrity, integral personal characteristics of the school leader.

Since the goal of our research is the development of the school authorities' managerial competence in continuing education we will consider the concept of «specialist of school administration».

Administration is the monitoring of the organization's activities, individual entities and personnel units. This process is carried out by administrators, specialists, executives of the management apparatus; usually they are at the upper level in the

organization. In general secondary education institutions, school administration specialists are the director, deputy director for education, deputy director for training [6].

Under the school administrators' managerial competency, we understand the ability and willingness to analyze holistically and deeply, clearly formulate the educational institution problems and find the most appropriate and effective approach in relation to the particular situation of the school from a wider range of alternative approaches to their solution.

The social and professional development dynamism, systemic changes in the field of education suggest that the professional activity of school administration specialists is not defined for the entire period of their professional career. In the prevailing socio-economic conditions, continuous education is required, which ensures a continuous increase in the level of managerial competence of school administration specialist. According to the manifestation peculiarities of the considered competency in the practical professional activities of school administrators in the process of solving traditional and non-standard managerial and pedagogical tasks, three levels of its formation can be distinguished: development, competency, craftsmanship. At the same time, in the structure of managerial competence, four main functional elements can be designated:

- cognitive component (knowledgeable);
- practical component that has an applied character (skills and abilities), motivation for professional activity;
- personal (socially significant) qualities;
- the potential (person's psychological resources), which determines the professional development prospects and the trajectory and self-improvement [7].

At the same time, topical managerial competency includes such characteristics as readiness for manifestation of managerial competency (motivational aspect); ownership of knowledge of the competency content (cognitive aspect); experience of competency displaying in a variety of standard and non-standard managerial and pedagogical situations (operational aspect).

Consequently, the managerial competency of the school administration specialist can be regarded as an essential component of professional competency. Managerial competency is a systemic characteristic of the person-centered process of training of managers at the postgraduate level (PGL).

That is why the problem of formation and development of school administration specialists' managerial competence in the professional development process should be addressed to the greatest extent in the process of realizing personal and project-centered education.

Professional development is, by its very nature, the reformatting of ways of professional activities, professional communication skills and abilities, personality traits, adjusting already existing ideas, updating the motivation of school administration specialists. In the process of training there is an opportunity to master

new methods of professional thinking and ways of solving professional problems, which is directly related to the properties and qualities development of the school administrators' personality as subjects of study.

The professional development of the school administration specialists at PGL will be effective if conditions are created which ensure the learning process orientation to the personal development, taking into account the peculiarities of professional activity in the field of education management and the existing subjective practical experience of management; if development of the elements of management competency is carried out in the interactive actions of educational actors in accordance with the planned, expected result of the managerial competence formation and development [8].

In order to study the peculiarities of managerial competency and the possibilities of its formation at PGL in the period from 2015 to 2018, on the basis of the Donetsk Regional In-Service Teacher Training Institute (ITTI) (Kramatorsk), an experimental research was conducted in which about 180 school managers participated.

The first stage of research and experimental work was devoted to the educational system modeling, which contributes to the effective formation and improving of school administration specialists' managerial competence in the professional development process at PGL and the developing theoretical model to ensure a sufficient level of its formation. Key, basic and special competencies, interacting with each other, are manifested in the process of solving important professional tasks of different levels of sophistication and in different contexts, using a certain educational space.

To identify the level of school administration specialists' managerial competency, it is desirable to carry out in the form of a number of verification acts: verification of the formation of «information» competence – the task of finding specific information (at the choice of specialist – training leader) with the help of a PC (for a duration of not more than 10 minutes); personality-value competencies and leadership skills testing (1-2 tests of the training leader) (20-40 min.); analysis and ways of solving a specific managerial situation with the allocation of risks of the problem «proposed» solution. The best option is «case study», which includes economic and legal nature issues and the need for management experience (30 minutes); an interview on completing the proposed task and an answer to 2-3 questions on the identification of the «special» competency formation (20 minutes).

Total time to determine the state of school administration specialists' managerial competency formation – 2.5-3 hours.

As a result, an individual card of the school administration specialist's development is being compiled. It is possible that the certain competences formation is desirable to conduct in the internship form – everything is solved individually [9].

In designing training it is important to take into account the professional level of school administration specialists, their self-education ability. ITTI creates «small groups» whose participants have similar problems in professional growth.

Moreover, as a rule, it is a question of developing competencies of the existing school administration specialists.

Analyzing the strategic tasks of the educational institutions development in the Donetsk region, a number of tasks have been identified that reflect the necessity to develop special management competences of school administration specialists: new organizational forms of educational institutions building up, transition to autonomy; new economic aspects of the educational institution activity: a new sectoral employee remuneration system; application of management laws and regularities in the general secondary education institution's administrative activity (GSEI); formation of the GSEI information environment; introduction of aspects of GSEI state and public administration; establishment of interaction with other education actors, school partners (social partnership); the educational process building up focused on achieving the goals of a particular education degree and taking into account new educational standards; educational space designing for school teachers' and administrators' professional development and self-education.

It is advisable to build the learning process with the maximum use of tutor's virtual interaction (teacher, conducting individual or group sessions in a distance learning) with members of the group on a special, closed to unauthorized networks users, forum.

The material for self-study, tasks, actual information the teacher places on the platform. In the forum communication (on-line) occurs on a daily basis, at a convenient time for everyone. School administrators can ask any questions that concern them as managers at present. The reaction comes not only from the teacher, but from colleagues. Teacher-tutor can offer themes to be discussed (research topics) that their tasks are not a purely theoretical convention, but require a combination of knowledge, experience, managerial skills in solving specific problems. The actual communication of such group is minimized, but, of course, it is planned. Thus, the process smoothly transforms into continuing professional education with the simultaneous creation of the informal and network community of like-minded people.

At the second stage the theoretical and methodological bases of application of competence, activity orientated and person-centered approaches in the process of school administration specialists' managerial competence formation were developed.

At the core of this stage it is an analysis of the school administrators' personal qualities, which inadequate formation does not allow to manage the organization, the team, to achieve the goals effectively. At this stage, the leader's individual qualities, his / her personal characteristics, ability to manage, influencing the «key» and «special» competency, are analyzed.

Key competencies:

- the ability to manage oneself;
- reasonable personal values;

- clear personal goals;
- the need for personal growth.

Basically, the factors mentioned above are in the logic of the «cultural and value» competence and «self-improvement» formation.

Special competencies (management):
- skill to solve problems;
- the ability to influence others;
- knowledge of modern managerial approaches;
- creativity and ability to innovate;
- ability to manage;
- ability to teach and develop subordinates;
- the ability to form and develop effective working groups [5].

These factors affect their own managerial («special») competency. Absence of any skills or abilities creates limitations for full management activity. An analysis of a wide range of possible approaches to study these issues in national and foreign pedagogy has allowed to highlight the tests proposed by Mike Woodcock and Dave Francis: personal constraints assessment; the inability to control oneself; nebulous personal values; vague personal goals; leadership skills, etc. [10].

On the basis of the acme logical modeling of school administration specialists' managerial competence, a model of managing the formation of GSEI manager's managerial competence and socially significant qualities at PGL, the content of which is due to the peculiarities of the simulated object, and the study purpose, is developed [11].

The model structural components are: a methodological cluster (goals, tasks and principles of realization), a technological cluster (leading technologies, content, means, training methods and forms), a criterion cluster (results achievement levels and indicators and psychological and pedagogical conditions for the GSEI managers' training at PGL). The basis of the research and experimental work training phase was a development programme aimed at developing managerial competency in management in the conditions of the state standards introduction, the formation of readiness for the effective implementation of managerial functions (planning, organization, stimulation and motivation, control and regulation) within the framework implementation of modern state educational policy.

The procedure of the individual educational trajectories implementation was carried out in several stages: propaedeutic, installation, procedural, diagnostic and reflexive.

Conclusions. The findings of our study indicate that the GSEI managers' in-service course training, organized at PGL on the competent approach basis, allows developing their managerial competency and professionally important personality traits.

The effectiveness of GSEI managers' managerial competence forming at PGL is provided by a set of specially created conditions: organizational, related with the organization of the school administrators' training, which allow to manage the

students' competencies formation effectively, to introduce innovative educational technologies in the educational process, and content, related to optimize the training content.

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FORMATION OF FAKE NEWS RESISTANCE IN STUDENTS OF HIGHER EDUCATIONAL INSTITUTIONS AS A COMPONENT OF NATIONAL SECURITY

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In the concepts of national security of many leading countries of the world it is determined that the main feature of the new century will be the shifting of emphasis in the field of information confrontation. The achievement of information superiority becomes a prerequisite for the victory over any opponent.

Back in 2006, experts at the Kyiv National University of Internal Affairs substantiated that the most dangerous at this stage in the development of Ukrainian society is the holding of information wars - the extreme form of information confrontation [1]. They highlighted two interpretations of the notion of information warfare: humanitarian and technical, where the humanitarian information warfare is an attempt to influence the processes of thinking of the population of the enemy state.

Psychological struggle consists in the organization and conduct of various psychological operations.

1. Operations againsts the national will.
2. Cultural conflict.
3. Operations againsts opposing commanders.
4. Operations against troops.

Information struggle is not only in the course of a military conflict, but also long before its beginning and after its completion, that is, it can often be said that it is conducted permanently.

At the stage of preparation for armed struggle, measures of information struggle are carried out primarily at the state level in order to create the desired military-political and economic conditions for the beginning of aggression. Purpose: isolation of a likely opponent on the international scene, undermining the morally-psychological state of the servicemen and the enemy's population, strengthening anti-war and anti-government sentiment in the enemy's country, consolidating the population and the personnel of its own armed forces and allies.

In the course of combat operations, information-psychological operations pursue the following main objectives: the undermining of the moral and psychological state of the personnel of the enemy's armed forces, the weakening of the offensive impulse or the ability to the enemy's hard-core defenses, the demoralization of the departing enemy units, the motivation etc.

After the achievement of the military-political goal, the information campaign is aimed at stabilizing the socio-political situation in the enemy's country, neutralizing the foci of resistance, and loyal attitude to the transformations in the country of the world community.

Information psychological weapons affects the moral and psychological state of man, social and other groups of the population, society as a whole. According to [1], one of the main goals of the information war is the suppression of a person's moral creative abilities. We relate this to the fact that the lack of spontaneous creativity blocks the ability of the group of individuals to create authentic cultural patterns that usually help one community / nation separate and morally protect themselves from the various influences of other human groups.

Today, social wars are increasingly shifting from television and paper to Facebook, blogs and special websites. Social media are very convenient for such a method as trolling. It is known that some countries have «troll armies». Comments without links are often posted straight to forums, and each troll has to produce hundreds of comments during a 12-hour shift. Disinformation is designed to manipulate the receiver's feelings. Younger and more visually oriented people are lured in with memes, caricatures and videos. Social media attacks can be seemingly small, for example a 140-character tweet. But according to [2] this can be enough: some internet users had stopped commenting online because aggressive trolls had called them names and used threatening language. The inluence of a small message can grow when it is repeated, and some trolls have called tweeters the same nasty names hundreds of times.

Disinformation is also created for people who prefer in-depth "analyses". The needs of this target audience are met with lengthy blog articles with seemingly accurate lists of sources simulating the credibility of the text. The references, however, mostly lead to other disinformation sites. Subtle and intelligent content is the most problematic to resist: not everyone recognizes it as the product of an aggressive foreign manipulator. Thus many people let it affect them cognitively or psychologically.

According to [2] vulnerability of the population to information attacks correlates with the level of education of the population. In our opinion, education in general does little to protect a person from misinformation. It is known that if desired, different civilizations create books that meet the reader's intelligence, but may contain various forms of misinformation and propaganda. Often, people overestimate their own intellect, which prevents them from seeing complicated manipulations with facts created by the author, whom they vice versa underestimate.

Cyberbullying Research Center conducted a series of surveys on cyberbullying identification, prevention, and response. In particular, it discusses the differences between bullying and cyberbulling. While interpersonal relationships have many differences with interstate, some analogies can be identified. Based on the results of the research, in Table 1 we show common features between the characteristics of

cyberbullying in a teenage environment [3] (left column) and the use of fake news for political purposes according to our vision (right column).

Table 1

Common features between the characteristics of bullying in a teenage environment and the use of fake news for political purposes

Cyberbullying	Fake News
Victims may not know who is targeting them, or why. The aggressor can cloak his identity using anonymous email addresses or pseudonymous screen names.	Typically, the chain of links in an article with political disinformation ends with a fake source, a lot of such information is placed by bots in the comments to various videos, articles, etc. If it were easy to identify the author of fake news, it would be possible to erase his reputation or to start libel proceedings. But if everyone can transfer responsibility to another little-known source, it blocks the attempts to combat dishonesty in the media
Second, the hurtful actions of those who cyberbully can go viral; a large number of people can participate in the victimization. It seems, then, that the pool of potential targets, aggressors, and witnesses/bystanders is limitless.	An important aspect of fake news – it seems people love to distribute them. If you do not like a politician, nation or country, it's enjoyable to tell a tale about them
Third, it is often easier to be cruel using technology because cyberbullying can be done from a physically distant location, and the aggressor doesn't have to see the immediate response by the target. In fact, some teens simply might not realize the serious harm they are causing because they are sheltered from the victim's response.	Again, many people who click on «share with friends» in social networks under fake news are not fully aware at this moment, how unethical it is. At the click of this button, his own action seems completely innocent to the user of the Internet

The Table 1 shows that the danger of fake news lies deeply in the psychology of group interaction, and it is necessary to deal with it with complex methods, because prohibitions and punishments do not change many patterns of human behavior.

It is now accepted to develop universal (preferably international) indicators to combat dishonesty in the media. The Trust Project [4], for example, is undertaking such work to develop indicators to determine the reliability of sources and platforms, which can provide useful benchmarks for further search for relevant metrics. Reliable media should unite their efforts. These indicators should help users evaluate the quality of the content and allow them to check the source, its owner, and compliance with ethical and journalistic standards. Such indicators should be displayed along with the journalistic material on the media site. Search engines must integrate these metrics into their ranking search algorithms.

At the level of news consumer, the rules for determining fake news should be as simple as possible. For example, it should be clear for social media users if a certain message is really popular, or whether such popularity is artificially created. Sometimes the rules for media professionals contain many nuances, and specific methodologies are needed to teach media literacy different social and professional groups.

In 2018, the European Commission released Report of the independent High level Group on fake news and online disinformation, in which much attention is paid to education [5], in particular.

The European Commission should:

• Sharpen actions in support of media and information literacy for all citizens, including exchange of best practices and training for teachers (e.g. through Erasmus+, Training and Education 2020 and similar schemes), and the promotion of media literacy in EU curricula reforms and OECD PISA competency rankings. Special attention should be paid to the specifc needs of certain sub-regions (e.g. Baltic or Eastern Europe);

• Following the example of collaborations already in place and currently focusing on young people (e.g. the Safer Internet Centres, Better Internet Centres and Schoolnet.eu), consider increasing its support to build a Europe-wide community of practice engaged in leading media and information initiatives on diferent age and demographic groups;

• As the European Commission can provide training of journalists.

Civil society organisations should:

• Work with academia, educational psychology professionals and the media industry to formulate skill and age-specifc media and information literacy approaches and monitor their efectiveness;

• Design and promote literacy programmes to enhance the quality of information around elections.

Platforms should:

• Develop tools to share standard information sheets to users developed by independent (educational) institutions within media and information literacy programs, raising awareness of digital disinformation and emerging fndings about digital risks.

News media organisations should:

• Cooperate with CSOs and academia to formulate and implement skill and age-specifc media and information literacy approaches, and for all ages, while pursuing their media literacy projects in cooperation with schools and other educational institutions that target younger generations.

Today in Ukraine, universities have begun to engage in fight with fake news, aware of the role of education in shaping the consciousness of future generations. Thus, teachers, graduates and students of the Mohyla School of Journalism became co-founders of the site to verify the facts Stopfake.org [6], which was launched on

March 2, 2014. According to the experts of this site Ukraine should include media literacy as a separate subject in the general school curriculum, prepare teachers for teaching this discipline and develop special methodological recommendations for its teaching. It would be wise to use the approach mentioned in the report of the European Commission Expert Group - such training programs should be developed by educational authorities in conjunction with experts on fact-checking organizations. In addition, it is important to implement individual information literacy training for citizens of different age groups. It is especially important to conduct such training on the eve of election campaigns.

At the Petro Mohyla Black Sea National University, media literacy training for students and teachers could be conducted on the basis of the Center for Socio-Psychological Support, Professional Development and Employment Promotion, which already exists on the basis of the Postgraduate Institute [7]. The activity of department covers the following areas as advanced training, retraining (second higher education) and part-time education. The Center provides the participants of the educational process with modern socio-psychological knowledge, increases their psychological competence, carries out psychodiagnostic, developmental work, conducts psychological consultations and trainings. In addition to scheduled trainings for students, additional training is provided on request.

While trainings are the best way to provide students and teachers with the latest information on media literacy, it is obvious that university education can not be limited to training, and all socially important information should be incorporated into the educational process. We have analyzed the curricula of specialties that are accredited at Petro Mohyla Black Sea National University, Mykolayiv, on the possibility to teach students media-literacy, without changing the existing educational process. The results are shown in Table 2.

As you can see, the curricula of most specialties contain disciplines that are appropriate to study various aspects of fake news. However, some of these disciplines are selective (first of all it applies to political science), so in reality, students risk not getting the necessary knowledge. For such specialties it is especially important to consider the issue of fake news within the boundaries of security science disciplines (life safety, labor protection, civil protection).

In the modern world we have to bear in mind that classical education is not the main source of knowledge and meanings for young people. Back in 1988 Guillermo Orozco Gómez in Harvard tested the hypothesis that people learn much more from regular television than from any other institution around. He proved that most of the students were learning different things from television and other media such as film, and this is true to this day [8, 9]. Now the Internet is a serious competitor to television, but many people continue to watch TV shows and video materials, they just rarely use a classic TV-set for this.

Table 2

The list of actual disciplines (2018-2019), the plans of which are appropriate to include questions on various aspects of fake news

Specialty	Subject
053 Psychology	The curriculum contains many relevant disciplines
029 International relations	The curriculum contains many relevant disciplines
073 Management	The curriculum contains many relevant disciplines
231 Social work	**Bachelor degree** Regulation of social conflicts Analytical-synthetic verification of information Information security of a person Advertising and information technologies **Master degree** Social risks
281 Public administration	**Bachelor degree** National and public security Anti-crisis management in municipal management Modern information and communication technologies in management **Master degree** European integration, international public administration and security Anti-crisis management Conflictology
061 Journalism	**Bachelor degree** Psychology Sociology of mass communication The theory of mass communication and communication technologies Critical Thinking and Media Literacy Fact checking and verification of information Media text analysis
052 Politology	**Bachelor degree** Global and regional security systems Modern problems of war and peace **Master degree** The political image of the countries of the world in the mass media
054 Sociology	**Bachelor degree** Sectoral Sociology: The Sociology of the Conflict Political and PR campaigns Pre-election campaigns and work with voters in cities Modern digital communication Management of media processes and PR

072 Finance, Banking and Insurance	**Bachelor degree** Risk Management of Financial Institutions Professional ethics of financial organizations **Master degree** Business Security Management
076 Entrepreneurship, trade and stock market activities	**Master degree** Business Security Management Exchange risk management
071 Accounting and taxation	**Master degree** Business Security Management
032 History and archeology	**Bachelor degree** Conflictology
193 Geodesy and land management	**Bachelor degree** Political science
035 Philology	**Bachelor degree** Critical Thinking and Media Literacy
081 Law	**Bachelor degree** Political science
122 Computer Science	**Bachelor degree** Political science
123 Computer Engineering	**Bachelor degree** Political science
151 Automation and computer-integrated technologies	**Bachelor degree** Political science
121 Software Engineering	**Bachelor degree** Political science
101 Ecology	**Bachelor degree** Political science
227 Physical therapy, ergo therapy	**Bachelor degree** Political science
222 Medicine	–
017 Physical Culture and Sports	

One of the problems with media education is that in many, first of all, physical, mathematical and technical areas teachers and university professors are more willing to introduce courses on media education, but courses at the technical level – not for addressing the critical thinking in using the digital tools. But the realty is that latest technologies have made retouching and the complete re-creation of photos so fast and efficient that photo technicians have now joined video and recording engineers

in the fraternity of modern manipulators, each of them capable of reassembling bits of reality for any effect at all (Marshall Blonsky, citated from [10]).

Many teachers and university professors see television, blogs, and social networks as something that students do outside the classroom, and they don't want to deal with it. It is more expedient to use the elements of modern media for constructive purposes, and it is not only about commenting in an educational institution and criticizing individual articles, but also about creating and incorporating your own content into the television-digital world.

Particular sections of disciplines «Information security» and «Media Literacy» can be partly integrated in other disciplines of different specialties according to their profile.

1. During the study of the subjects «Life Safety», «Occupational Safety» and «Civil Protection» it is important to consider the issue of fake news. While studying "Occupational Safety", consider the influence of fake news on making decisions by workers and management on employment, extension of contracts, and the choice of a candidate for elected positions, sale and purchase of shares of their enterprises.

2. The harm of politically oriented fake news can be explained to students through analogies with their personal daily lives: bullying, gossip, etc.

3. To train critical thinking fake news can be placed periodically in university newspapers, and a contest «Find the fake news» conducted among readers.

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LEGAL REGULATION OF THE STATE POLICY MECHANISMS OF SMALL BUSINESS SUPPORT IN UKRAINE

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Entrepreneurship has significant opportunities for expanding productive employment not only through the creation of new jobs, but also through direct involvement of the unemployed in entrepreneurship.

According to Article 42 of the Constitution of Ukraine, everyone has the right to entrepreneurial activity, which is not prohibited by law [1].

In defining the role of the state in the legal regulation of entrepreneurial activity, it is worth mentioning:

- the state provides protection of competition in entrepreneurial activity. Abuse of a monopoly on the market, unjustified restriction of competition and unfair competition are not allowed. Types and boundaries of a monopoly are determined by law;
- the state protects the rights of consumers, controls the quality and safety of products and all types of services and works, promotes the activities of public organizations of consumers;
- the State Employment Service has the experience of financial support for the entrepreneurial initiative of the unemployed through a one-time payment of all unemployment benefits, which is entitled to a citizen registered in the center of employment as an unemployed person.

Financial support for the unemployed who have expressed a desire to be engaged in entrepreneurial activity is carried out by providing a one-time payment of unemployment benefits, which a person will receive in most cases within 360 days. A widespread view is that funds received as a one-time payment of benefits should be aimed at the purchase of production equipment, raw materials, materials for rent, and premises lease. However, as a rule, in most cases this amount is not enough to cover the costs.

Therefore, entrepreneurs direct it to provision of own existence in the first (organizational) period of entrepreneurial activity, when business is still not profitable, and other sources of income are lost. That is, although this assistance is intended to start an entrepreneurial activity, it does not achieve and cannot achieve such a goal in

real life. However, a certain part of the unemployed from those who have been paid a one-time unemployment benefit payment to start a business, in the future, for various reasons, is not engaged in entrepreneurship, but enters into employment. Although not on a large scale, but some of the unemployed seem to be trying to start their own business, but instead, after registering at the employment center, to develop a plan for self-employment, to take part in job-finding workshops, to follow the advice and recommendations of the center's specialists employment, regularly report on their job search activities, receive one-time payment easily (in case of fulfillment of the business plan development requirements), and then independently carry out a job search or implied unregistered employment. Similar facts are often referred by law enforcement agencies to abuses, violations of the law[7].

The above negative facts cannot lead to a rejection of the idea of expanding the support of the unemployed who have solved the problem of employment at the expense of their own initiative. Moreover, the proportion of citizens who receive a one-time unemployment benefit for doing business that they do not plan to do is not too high.

Among the reasons hindering the implementation of entrepreneurial activity, respondents who did not register as private entrepreneurs identified the following:

– employment;

– lack of entrepreneurial inclinations and abilities;

– a mistake in choosing a business idea;

– lack of necessary professional knowledge for the conduct of their own business [8].

Problems of improving the procedure for a one-time unemployment benefit payment for the organization of unemployed entrepreneurship are dealt with both by the State Employment Service and by government officials, along with legislators.

In the vast majority of cases, the reason for the ineffectiveness of one-time unemployment benefit payment is the selection of unemployed candidates, which is actually carried out during the recruitment process, the implementation of professional counseling and career counseling measures, and at the stage of considering the assessment of the business plan.

In order to improve the a one-time unemployment benefit payment for the organization of unemployed entrepreneurship and for the purpose and purposeful and efficient use of the Fund of the compulsory state social insurance of Ukraine in case of unemployment, referring to national requirements and requirements of the current legislation of Ukraine, it is considered appropriate, among other things, to ensure implementation the mechanisms of public administration regarding:

a one-time unemployment benefit payment for the organization of entrepreneurial activity solely for the purpose of ensuring the employment of the unemployed, in the first place, those for whom there are no prospects of employment for the period of unemployment benefit due to the exhaustion of all employment opportunities;

compulsory occupational diagnostic examination of the unemployed according to the appointment of the employment service who apply for unemployment benefits

on a one-time basis and the training of the basics of small business by programs lasting at least two weeks;

reviewing and peer review of unemployed business plans submitted to the relevant structures of regional associations of employers and local self-government bodies regarding the expediency and development of the chosen direction of entrepreneurial activity [11].

According to the Resolution of the Cabinet of Ministers of Ukraine dated 20 November 2000 (with amendments) No. 307 "The procedure for granting unemployment benefits, including one-time payments for the organization of entrepreneurship", a one-time payment of benefits is made only by those unemployed who cannot be employed with the assistance of employment services within a month [4]. It is also provided that the money assistance is not paid to people who have been registered as entrepreneurs during the last 24 months prior to the start of unemployment [3, 6].

Consequently, the centers of employment are faced with the task of significantly increasing the efficiency at all stages of attracting unemployed to entrepreneurship and self-employment, which are a significant factor in employment.

Article 27 of the Law of Ukraine "On Employment of the Population" of 5 July 2012 regulates the issue of stimulating self-employment of the population and creating new jobs by small business entities [5, 7].

Considering that promotion of entrepreneurship and independent employment of the unemployed is a priority direction of implementation of the state employment policy in the labor market, it is important not only to understand the essence of entrepreneurship, the peculiarities of forming the motivational mechanism of its development, the need to substantiate specific areas of organization of its own business, but also to process at all levels of management of the whole systems of appropriate measures that would ensure achievement of the goal.

The purpose of the task is to make the unemployed more informed about what it means to be self-employed, to indicate what steps and actions they should take to start their own business, to help them in his organization. It is also important to decide whether unemployed people are ready to start their own business. Therefore, the activity of employment centers to attract the unemployed to self-employment should be carried out in stages: information → orientation → preparation → start of own business.

The analysis of the practical activities of the employment centers in relation to the attraction of the unemployed to self-employment and entrepreneurship, as well as the regulatory documents regulating it, provide for the successive passage of five stages (Fig. 1).

Who and under what conditions can be provided with this social service?

The first condition is registration at the center of employment for at least 1 month, while the person must reach the age of 18, and there is no suitable job for a person on the labor market.

The one-time payment of unemployment benefits is not paid to the unemployed, who, as a result of unemployment benefits, was reduced by dismissal from the last place of employment on the grounds provided for in s 3, 4, 7, 8 of Article 40, Articles 41 and 45 of the Labor Code of Ukraine, as well as servicemen dismissed from services on the grounds provided for in paragraph 7 of Article 36, paragraph "c" of part 3, paragraphs "g", "h", "i", "k" of part 6, paragraphs "g", "h", "i" of part 7 Article 26 of the Law of Ukraine "On Military Duty and Military Service" and paragraph 5.4 or terminated in connection with the submission of the documents containing false information and persons in the last 24 months before the start of unemployment were registered as business entities [2].

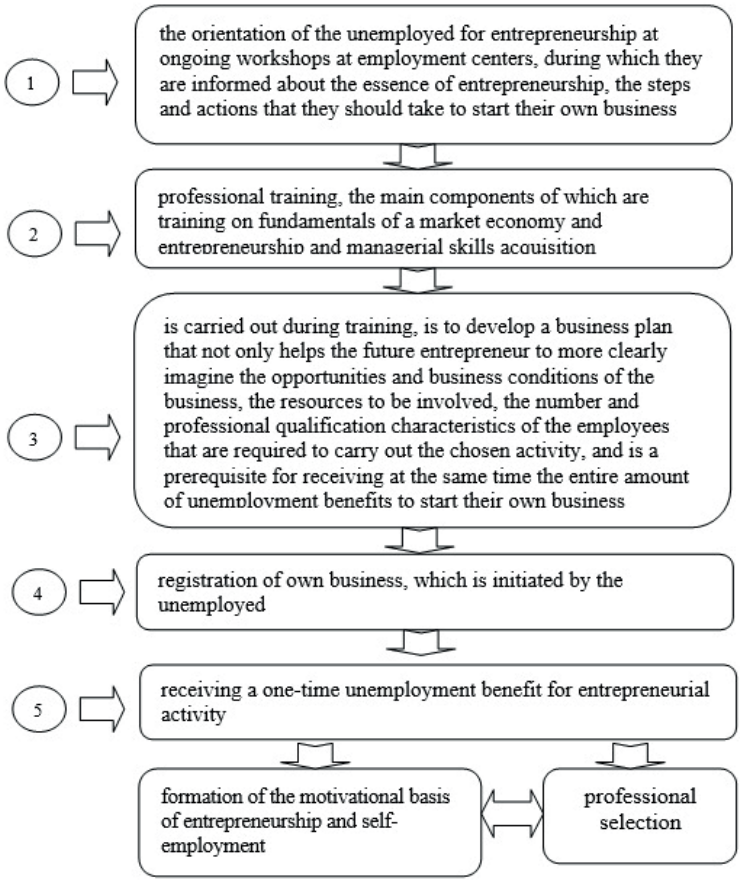

Fig. 1. Stages of the analysis of practical activity of employment centers in relation to the attraction of unemployed to self-employment and entrepreneurship [formed on the basis 3, 4, 5, 10, 11]

There are also restrictions for the unemployed, who, while registered, had violations for failure to comply with the written recommendations of the employment service.

The State Employment Center involves unemployed people who have expressed their desire to receive unemployment benefits once for business organization, with their consent and taking into account professional diagnostics for seminars, or organizes training in the basics of business.

The one-time payment of unemployment benefits is paid in the amount of the annual amount of unemployment benefit specified for the particular unemployed.

If the unemployed person has already received part of the targeted unemployment benefit, the remainder is paid.

The one-time payment of unemployment benefits to people of retirement age is made on a general basis in the amount of the annual amount of unemployment benefit.

The one-time unemployment benefit for unemployed people for the organization of entrepreneurship is carried out by employment centers within the limits of the funds provided for this purpose by the Fund of the compulsory state social insurance of Ukraine in case of unemployment under the below defined mechanism of public administration.

To consider unemployment benefits, the following documents are submitted to the employment center: a statement of assistance and a business plan.

The decision on a one-time payment of unemployment benefits (or refusal to pay it) is taken by the head of the employment center on the basis of the conclusion of the commission on issues of one-time payment of unemployment benefits for the organization of entrepreneurship, regarding the ability of the unemployed to entrepreneurial activity. The conclusion of the commission is based on the results of the professional diagnosis of the unemployed, his acquired knowledge on the organization of entrepreneurship and analysis of his business plan.

A decision on a one-time payment of unemployment benefits (or refusal to pay it) is issued by an order with which the unemployed person must be acquainted with a personal signature.

The decision on a one-time payment of unemployment benefits is made within 10 working days from the date of submission of all necessary documents for its appointment.

The one-time unemployment benefit is paid upon submission of the unemployed to the employment center within 10 working days after the decision on the one-time payment of unemployment benefits certified in accordance with established procedure copies of an extract from the certificate of state registration of an individual entrepreneur, and in case of the creation of a legal entity, copies of the statement from the certificate on the state registration of a legal entity and a copy of the constituent documents.

The amount calculation of the unemployment benefit for the one-time payment to the unemployed is made from the date of state registration of it as an individual entrepreneur or from the date of state registration of a legal entity whose founder is

this unemployed person and transferred to the personal account of the unemployed within 30 calendar days after receipt from the Pension Fund bodies of Ukraine information on the registration actions by the state registrar regarding the creation of a legal entity, the acquisition of the status of an entrepreneur by an individual.

It should also be borne in mind that people who have been paid a one-time unemployment benefit payment, if they are re-registered at the State Employment Service as unemployed in the two-year period within which she was to be paid, unemployment benefits are not allocated.

In the case of recognition in the established procedure, unemployed people of pre-retirement age who have been paid unemployment benefits once for the organization of entrepreneurship, unemployment benefits are granted after the end of the period for which a one-time payment was made.

The amount of unemployment benefit for these individuals depends on their participation in unemployment insurance (on a voluntary basis) during the business activity [9].

In attracting unemployed citizens to entrepreneurship it is extremely important to strengthen their orientation towards this activity. First of all, it is necessary to improve the advertising of this service, its essence, advantages for the most innovative part of employment centers' clients. It is about advertising in the media, and directly in employment centers. One of the most important elements of support for start-up entrepreneurs is the state assistance to them in identifying promising and profitable types of business.

Consequently, small businesses do not have the ability to hold specialist departments, even individual specialists, or spend significant amounts of money on marketing. Without state support of this direction, they are forced to move in business by trial and error, which in many cases leads to failures, bankruptcies and disappointments. Therefore, it is advisable that in regions with business centers or agencies for the development of entrepreneurship, special units have been created that would engage in marketing research for start-up entrepreneurs.

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APPLICATION OF STATISTICAL ANALYSIS METHODS IN THE COMPETITIVENESS MANAGEMENT OF REGIONAL SYSTEMSOF HIGHER EDUCATION

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Governments, public organizations and businesses call higher education the main driver of development. Such attention to the higher education can be explained by several factors, among which three most important ones can be distinguished. First of all, it is increasing the role of education and knowledge in ensuring of economic competitiveness. Generation of new knowledge and its commercialization in the form of innovations depends on the intellectual potential of higher education institutions (HEIs). Secondly, according to the results of special

surveys of labour force in the member countries of the Organization for Economic Cooperation and Development [19], the average incomes of the population with the master and doctor degrees are almost twice (by 91 percent) higher than incomes of persons with general secondary education. The third factor that causes the global attention of scientists, politicians and the general public to the problems of higher education functioning is somewhat 'belated', as McCowan [16, 505-523] notes, an awareness of its importance in ensuring sustainable social development. The Incheon Declaration [37] adopted at the World Education Forum and the UNESCO Preliminary Report [38] on the preparation of a global convention on the recognition of higher education qualifications stated that 'Higher education is expected to play a pivotal role in sustainable development, economic growth, decent work, gender equality and responsible global citizenship in all regions'.

The presented arguments point to the fact that the competitiveness of higher education system becomes one of the determining factors not only of sustainable development, but also of national security. That is why the development of approaches to the analysis of higher education system competitiveness, which takes into account the whole complex of its functions and interests of various groups of stakeholders, is an actual problem of theoretical and applied nature.

In recent years, there has been significant increase in the number of studies concerning the functioning of higher education system. In a global study of directions, publications and the institutional structure of higher education research, Altbach [1] concludes that despite the growth in the number of research centres, 'higher education is a field without a clear intellectual, methodological, or disciplinary centre. A diversity of approaches reflects the diverse interests and backgrounds of those involved in the field'. Characterizing possible trends in the development of higher education research, Altbach noted that they will be defined by the challenges faced by HEIs and education systems, in particular regarding the equity and access to higher education, its funding, development of new technologies, and effective management.

McCowan [16, 505-523] has proposed an original analytical model for studying the evolution of higher education which is comprised of three main components: (1) value; (2) functions; (3) the level of interaction with the external environment. Based on this model, the author identified five institutional models in the global evolution of universities (Medieval, Humboldtian, Developmental, Multiversity, Enterprise), and outlined trends in the development of higher education for each of the components of the model. The assessments of the value of knowledge in terms of its functional and practical importance, as well as the growth of social interaction of universities with the other institutions of society, were among the main trends in the evolution of universities. This model allows to explain the increase of contribution of the economic efficiency and social interaction of the HEIs in the analysis of its competitiveness.

Analyzing the modern HEIs management in terms of balancing the interests of various stakeholders, Teichler [29] focused on the criterion of quality, relevance

and efficiency. It is reasonable to consider the author's conclusion about the need to balance the different groups of criteria for higher education assessment, taking into account the mission, strategy, type and functions of HEIs. However, in our opinion, a more appropriate term for designating a compliance feature is the HEIs social responsibility. This criterion involves the development of strategies based on the identification and balancing the interests of various higher education stakeholders. Based on the integrated analysis of functions of the higher education system [39], as well as its internal and external goals in the global strategic development, Panchyshyn and Hrynkevych [20] have concluded that quality, social responsibility and economic efficiency are the main criteria for the analysis of competitiveness of higher education systems at all levels its functioning.

Databases with indicators of HEIs performance play the key role in development of methodology for competitiveness analysis of the higher education system. The International ranking expert group [13] has adopted the Berlin Principles on Ranking of Higher Education Institutions to increase stakeholder confidence in the results of the comparative analysis of competitiveness in higher education. These principles included a clear methodology for building a ranking; usage of a set of quantitative and qualitative indicators; the preference of indicators that characterize the achieved results, and not resources of HEI; utilization of confirmed data that are based on the use of scientific methods and approaches.

The methods of integrated assessment of competitiveness in higher education can be divided into two groups by the level of application: (1) a local one, which corresponds to numerous rankings of HEIs competitiveness; (2) a national one that performs the assessments of the national system of higher education in different countries of the world. The authoritative ranking company in higher education, Quacquarelli Symonds [24], annually develops and publishes a ranking of national systems of higher education effectiveness titled 'QS Higher Education System Strength Rankings'. The evaluation methodology includes four components of assessment: (1) System strength; (2) Access; (3) Flagship Institution; (4) Economic context.

Despite the obvious simplicity and transparency of the approach for ranking of the national higher education systems, the methodology proposed by QS has a number of significant, in our opinion, shortcomings. First of all, this ranking is based only on the positions of the country's HEIs, which fall into the world ranking of universities 'QS World University Rankings', that is formed by the same company. Secondly, the ranking does not take into account the overall economic potential of the country's system of higher education and its funding by different types of stakeholders. Thirdly, the ranking does not reflect the level of implementation in the country the whole complex of functions of higher education that includes not only educational and scientific activities, but also public services and promoting the goals of sustainable development. Based on this analysis we found that there is no ranking that is equally informative and useful for various stakeholders and we agree

with the conclusions of Goglio [8] that 'an active role of researchers in the field of university rankings is desirable, for monitoring improvements on methodological issues and for making better-informed ranking consumers'.

The present study aims to lay out an interdisciplinary approach and conceptual model for the analysis of the higher education system competitiveness that is based on the criteria of quality, economic efficiency and social responsibility. For each of the criteria a framework for constructing the appropriate set of indicators has been developed. The proposed conceptual model as well as cluster analysis were applied for assessment of the higher education system competitiveness in the Ukraine's regions. The groups of regions that differ significantly in terms of the higher education system competitiveness and require a differentiated governmental policy as well as financial support were identified.

Research design and methods. The complexity of goals and interrelations that determine the functioning and development of the higher education system as well as factors of its competitiveness requires the usage of scientific theories and multidisciplinary approach for their application. Regardless of the institutional boundaries of decision-making, the development of the higher education system and its competitiveness depends on the influence of the following main groups of factors:

• socio-cultural and demographic factors related to the institutions of family, culture and religion, the hierarchy of values, the demographic structure of the population and its social mobility;

• political factors whose influence is related to the distribution of powers in the higher education management, funding policy, the level of development of the educational law and civil society institutions;

• economic factors that not only determine the prices for educational products of HEIs, but also cause the migration of intellectual resources as a result of the asymmetry of economic development of countries and regions;

• technological factors that create new opportunities related to the expansion of access to higher education through the online resources, as well as produce new threats associated with the reducing of demand for formal higher education.

The high level of interconnection and dependence of HEIs on various factors justify the application of institutional theory as the theoretical foundation for the analysis of higher education competitiveness. The application of the institutional theory expands the facilities of traditional types of analysis of complex objects, in particular the system-structural and strategic analysis, by the study of the interests of various stakeholders, as well as by recognition that the competitiveness of HEIs and its products are major factors of the competitiveness of regional and national higher education system (Fig. 1).

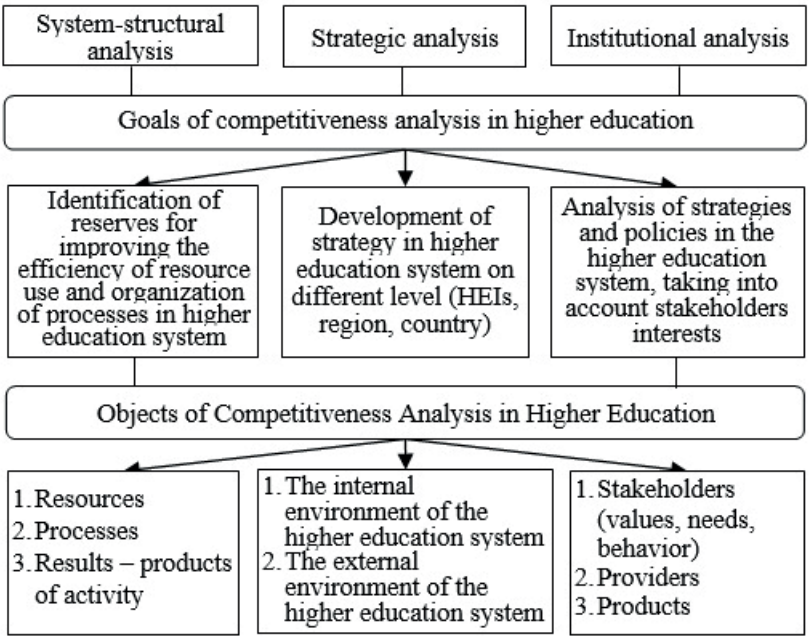

Fig. 1. Types of Competitiveness Analysis of Higher Education System
Source: developed by the authors

Using the interdisciplinary approach based on the institutional theory [18], the theory of human capital [2; 26], the theory of social capital [3], the theory of intellectual capital [6; 28], the theory of stakeholders [7], the theory of competitive advantage [22] we propose the definition of the higher education system as a system of informal (values, norms of behaviour, traditions etc.) and formal (laws, standards, educational, stakeholders, etc.) institutions that provide an understanding of the critical role of knowledge in self-improvement, accumulation, transmission as well as generation of new knowledge for the purposes of individual and common development.

The main components of the institutional structure of the national system of higher education can be defined as following: higher education providers, higher education products, internal and external stakeholders. Based on the introduced main components it is proposed to define the competitiveness of the higher education system as the ability of education providers to create products that generate benefits in human, social and intellectual capital development, and, accordingly, in realizing of the individual, national and global goals of development.

The frameworks for constructing of indicators of the higher education system competitiveness by the criteria of quality, social responsibility and economic

efficiency were developed using the methods of system analysis. Cluster analysis was applied in order to classify Ukraine's regions based by the set of competitiveness indicators. The cluster analysis, unlike most mathematical and statistical methods, does not impose any restrictions on the type of objects under consideration, and allows to explore a set of initial data of arbitrary nature.

The goal of the cluster analysis is to divide a set of objects G into m (m-integer) clusters Q1, Q2, ..., Qm based on the data contained in the set X, so that each object Gj belongs to one and only one subset of G. In this case, the objects belonging to the same cluster should be similar, and objects belonging to different clusters are unrelated. There are several cluster analysis algorithms that can be divided into hierarchical (tree-like) and non-hierarchical ones. The purpose of the tree-clustering algorithm is to combine objects into rather large clusters, using some degree of similarity or distance between objects. A typical result of such clustering is a hierarchical tree.

In the present study a tree-like method proposed by Ward (1963) was used for clustering of Ukraine's regions according to the level of the higher education system competitiveness. This method uses the variance analysis to estimate the distances between clusters. The method minimizes the sum of squares for any two (hypothetical) clusters that can be formed at each step. That is, the method is aimed at connecting clusters that are close to each other's. In general, the method is very effective, but it seeks to create small-sized clusters, which is not always convenient for a large number of observations.

Non-hierarchical k-means method is significantly different from the tree-like clustering [14]. Suppose we already have a hypothesis regarding the number of clusters. For example, we create just three clusters so that they are as different as possible. In the general case, the method of k-means generates exactly a k-number of different clusters located at the largest distances as possible from each other. From a computational point of view, this method can be considered as a 'variance analysis on the contrary'. The algorithm starts with k randomly selected clusters, and then changes the affiliation of objects in such a way that: (1) minimize the variability (variance) within the clusters, and (2) maximize variability (variance) between the clusters. This method is analogous to the ANOVA-method on the contrary, in the sense that the criterion of significance in the variance analysis compares the intergroup variance with the intragroup in examining the hypothesis that the mean in the groups differ from each other. During the k-means clustering, the program moves objects from one group (cluster) to another in order to obtain the most significant result when performing a variance analysis.

The study also used ANOVA-method to assess the quality of the results of clustering of Ukraine's regions. Based on the statistical parameters – intergroup variance, the average of group variances, Fisher's F-test and p-value, the significance of differences between the formed clusters in each of the indicators of competitiveness was evaluated. The method of calculating these statistical parameters is described in detail in [27]. The statistical parameters shown in the

Table 3 are calculated using the software package STATISTICA. If the actual value of the Fisher's F-test is higher than critical for the indicator of competitiveness, then the influence of this indicator on the results of the clustering is significant. The statistical parameter p-value, characterizes the probability of obtaining the Fisher's F-test higher than critical, when the significant effect of the competitiveness indicator on the difference between the clusters is actually out. The smaller the actual p-value from the accepted critical 0.05, the more likely the non-random influence of the competitiveness indicator on the clustering result of Ukraine's regions.

The method of taxonomic analysis is used for integrated assessment and comparison of the higher education systems' competitiveness in the regions of Ukraine. The method of taxonomic analysis is described in detail in [9; 21] and includes the following main steps:

1) the formation of input data matrix on the partial indicators of the system for each objects of comparison (in this study, higher education systems in the regions of Ukraine are such objects of comparison);

2) standardization of the partial indicators of the system, taking into account their division into incentives and disincentives;

3) calculation of the standard values vector of system;

4) calculation the distance between the actual and standard values of the system indicators for each object of comparison;

5) calculation the integral indicator of the system development for each object of comparison (in this study – the taxonomic coefficients of the higher education system competitiveness in the regions of Ukraine).

The databases of the following institutions served as information base for the performed competitiveness analysis:

• The State Statistics Service of Ukraine [32-35] – data about the activity of HEIs, the scientific and innovative activity in the regions of Ukraine, the gross regional product and regional human development;

• The Ukrainian Centre for Educational Quality Assessment [36] – data on the education quality of HEIs entrants, that was assessed by the results of external independent testing;

• Educational portals www.euroosvita.net [30] and www.osvita.ua [31] – about the national academic rankings of Ukrainian universities, as well as rankings by individual criteria;

• Portal of the project Profrights [23] on the observance of the principles of academic integrity by the HEIs of Ukraine.

One problem in the assessment of the competitiveness of the HEIs in Ukraine and its regions is related to the quality of information about the employment of university graduates. In Ukraine, unlike many European and other countries in the world, including Australia, the United States, Poland, Russia, there is no monitoring of graduate employment. There are also missing data on financial income and expenditures of universities by type of activity, systematized by region, that impairs

the quality of information on the economic efficiency of the higher education system of Ukraine's regions.

Results. The conceptual model of competitiveness analysis of the higher education system.

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation as well as the experimental conclusions that can be drawn.

The interdisciplinary approach to the competitiveness analysis of the higher education systems involves determination reserves for its increase, taking into account the interests of stakeholders, the potential and performance of higher education providers, as well as the levels of functioning of the higher education system: HEI, region, country. Fig. 2 provides a conceptual model for analysis of the higher education system competitiveness.

Fig. 2. Conceptual model for analysis of the higher education system competitiveness
Source: developed by the authors

The components of the higher education system – providers, products and stakeholders, as well as criteria for their evaluation – quality, social responsibility and economic efficiency – form the basis for the competitiveness analysis. The next level of the conceptual model of analysis takes into account the practicability and achievability of its implementation at various levels of the higher education system functioning: local/ institutional, regional, national.

Framework for construction of indicators of analysis of higher education system competitiveness according to criteria of quality, social responsibility and economic efficiency.

Fig. 3 presents an outline for construction of indicators of quality in higher

education competitiveness analysis. The framework takes into account the international principles of quality management [11], the peculiarities of the higher education system structure as well as the need to balance the interests of various stakeholders.

Criteria / objects of analysis	The levels of quality analysis			
	product	provider	region	country
Consumer's satisfaction (students, graduates, employers, etc.)				
Quality of the institutional environment				
Quality of results				
Quality of suppliers (entrants, teachers, institutions of secondary education, etc.)				

Fig. 3. Framework for construction of indicators of quality in competitiveness analysis of higher education system
Source: developed by the authors

Generalization of theoretical and applied approaches to understanding the essence of social responsibility [5; 22; 41], uniqueness of its manifestation from the point of functions of higher education, that was declared by UNESCO [40], as well as the definition of social responsibility proposed by the International Organization for Standardization [12], provided basis for distinguishing three types of classifications in the further analysis:

• the first type: the main areas of responsibility – social, economic and ecological;

• the second type: internal and external stakeholders of higher education, including staff, consumers, partners, community;

• the third type: the main functions of higher education system. For HEIs, these are educational activities, research, public services (serving public interests).

The combination of different approaches to understanding the essence and components of social responsibility allowed to describe this criterion of competitiveness of higher education system by a set of qualitative and quantitative estimates according to the scheme as shown in the Fig. 4.

Stakeholders	Areas of social responsibility		
	Social	Economic	Ecological
Educators, researchers, managers			
Entrants, students			
Partners (schools, employers, etc.)			
The community of the region, country			

Fig. 4. Framework for construction of indicators of social responsibility in competitiveness analysis of higher education system
Source: developed by the authors

Summarizing the theoretical approaches to understanding the economic efficiency of higher education [4; 15; 17], as well as applied issues of analysis of economic efficiency, we proposed to distinguish two main levels of relevant analysis: (1) the level of educational provider and its products; (2) the level of the higher education system of country and region. At each of these levels it is convenient to use three types of indicators of economic efficiency:

• indicators, which reflect the scale and the results of various activities of the HEIs in absolute measure;

• indicators that allow comparison of the absolute performance indicators in the higher education system per unit of assets, per staff, per student;

• indicators of income diversification, that reflect the sources of income from different activities in higher education system.

It is also important to take into account the interests of various stakeholders in defining the list of indicators of economic efficiency in the higher education system. The outline for construction of indicators of economic efficiency in higher education competitiveness analysis is presented in the Fig. 5.

Criteria / objects of analysis	The levels of economic efficiency analysis		
	HEIs and its products	region	country
	Stakeholders (internal and external)		
	students, educators, researchers, managers	entrants, graduates, employers, state and local governments	
Results (Capacity)			
Performance			
Income diversification			

Fig. 5. Framework for construction of indicators of economic efficiency in competitiveness analysis of higher education system

Source: developed by the authors

Proposed in Figures 1-5 conceptual and applied approaches to the competitiveness analysis of the higher education systems can serve as a basis for the development of analytical databases for decision-making at different levels of competitiveness management. In other words, it refers to the methodology for the formation of large data sets (Big-data) in the management of higher education system both at the institutional (HEI) and the regional and national levels. Figure 6 presents the framework for analysis of competitiveness of region/country higher education system.

Cluster analysis of competitiveness of higher education systems of the Ukraine's regions.

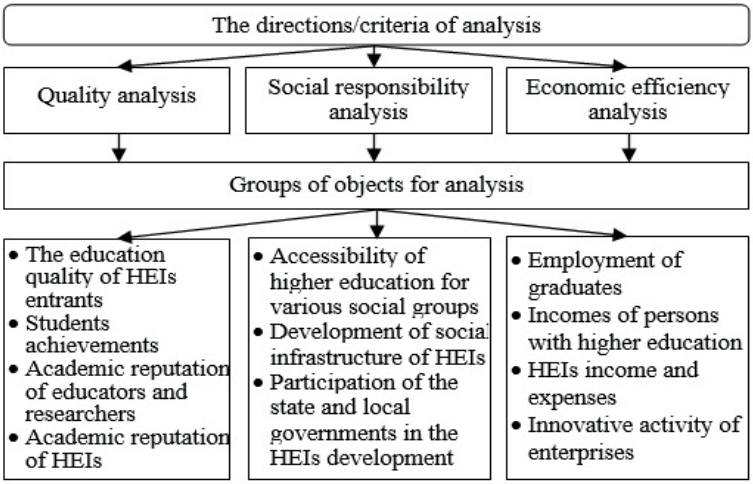

Fig. 6. Framework for analysis of competitiveness of region/country higher education system
Source: developed by the authors

In order to identify the features of the regional development of higher education system in Ukraine, we applied the proposed in Fig. 6 framework for comparative analysis and the database of The State Statistics Service of Ukraine [32-35], The Ukrainian Centre for Educational Quality Assessment [36], The Educational portals about the national academic rankings of Ukrainian universities [30-31], as well as portal of the project Profrights [23]. The set of indicators used is presented in the Table 1.

The list of indicators, as defined in Table 1, largely reflects the peculiarities of the higher education development in the regions of Ukraine. For example, one of the problems of universities in the L'viv region is the availability and quality of dorms for students from other regions of Ukraine. There are cases when HEIs with a high academic rating lose potential students, due to living conditions in dorms. Due to this, the percentage of students who are provided by dorms' is included in the list of indicators of the competitiveness analysis of higher education system of the Ukraine's regions.

Table 1

Indicators of quality, social responsibility and economic efficiency in the competitiveness analysis of higher education system of the Ukraine's regions

Indicators of quality	Indicators of social responsibility	Indicators of economic efficiency
• The share of entrants with an average score 180 and above according to external independent evaluation, % • The ratio of HEIs entrants in the region and the number of entrants who have participated the external independent evaluation in this region • The number of publications according to the SciVerse Scopus database, per the 100 HEIs staff, units • H-Index per one HEI according to the SciVerse Scopus database • The highest ranking of the HEI of the region in the University Ranking 'TOP-200 Ukraine' • The share of HEIs – participants of international associations, % • The share of foreign students in the HEIs, %	• The share of the disability students in the HEIs of the region, % • The share of students in the HEIs of the region among orphans and children deprived of parental care, % • The percentage of students who are provided by dorms', % • The number of students per 10 thousand population in the region, persons • The share of students in the HEIs of the region who study at the expense of local budgets, % • The number of recorded cases of violations of the rights with regard to students and staff per one HEIs in the region	• The share of HEIs graduates in the region who have been assigned to work among students who studied at the expense of the state order, % • The share of HEIs graduates in the region who have been assigned to work among students who studied at the expense of a regional order, % • Number of patents per 100 researchers who performed research in HEIs of the region • GRP (Gross Regional Product) per capita, UAH • Share of innovatively active enterprises in the region, % • Share of innovative products in total sales in the region, %

Source: developed by the authors

Indicator values for empirical analysis of higher education system competitiveness of the Ukraine's regions are presented in Tables 2-4.

Significant differences are observed in the quality of regional systems of higher education in terms of the quality criteria of entrants' education and academic reputation of educators and researchers. The statistics also show that Volyn, Donetsk, Zhytomyr Transcarpathian, Kropyvnytsky, Kherson and Chernihiv regions faced the problem of losses of significant portion of the potential entrants due to inter-regional and international educational migration.

Indicators of social responsibility of higher education systems of the Ukraine's regions are presented in Table 3.

Table 2

Indicators of quality in the competitiveness analysis of higher education system of the Ukraine's regions

Region	The share of entrants with an average score 180 and above according to External Independent Evaluation, %	The ratio of HEIs entrants in the region and the number of entrants who have participated the External Independent Evaluation in this region	The number of publications according to the SciVerse Scopus database, per the 100 HEIs staff, units	H-Index per one HEI according to the SciVerse Scopus database	The highest ranking of the HEI of the region in the University Ranking 'TOP-200 Ukraine'	The share of HEIs – participants of international associations, %	The share of foreign students in the HEIs, %
1	2	3	4	5	6	7	8
Vinnytsya region	7.84	0.651	26	5.00	33.0	33.3	35.1
Volyn region	8.86	0.562	64	13.50	23.1	50.0	42.6
Dnipropetrovsk region	6.72	1.074	118	11.91	44.4	29.2	39.5
Donetsk region	6.13	0.545	289	12.30	32.1	88.9	40.7
Zhytomyr region	6.09	0.521	22	7.50	19.4	20.0	33.7
Transcarpathian region	5.99	0.526	125	15.00	29.2	80.0	29.8
Zaporizhia region	6.19	1.005	41	8.50	26.4	9.1	28.0
Ivano-Frankivsk region	8.77	0.882	28	14.67	29.8	60.0	26.8
Kyiv region	6.79	0.371	2	3.00	20.0	16.7	43.0
Kropyvnytsky region	5.40	0.339	4	4.00	25.2	0.0	41.2
Luhansk region	4.95	0.821	64	9.33	27.7	50.0	39.1
Lviv region	14.28	1.418	137	17.25	44.7	19.0	34.9
Mykolaiv region	5.15	0.740	13	6.00	27.3	60.0	36.7
Odessa region	5.73	1.295	77	10.92	35.2	71.4	31.2
Poltava region	6.49	0.959	25	4.60	25.6	66.7	27.0
Rivne region	8.00	0.623	6	6.00	23.7	20.0	36.2
Sumy region	7.05	0.966	85	17.00	42.0	40.0	37.4
Ternopil region	9.37	1.276	44	8.75	29.5	50.0	34.3
Kharkiv region	8.07	1.834	126	12.47	49.5	31.6	35.7
Kherson region	5.25	0.509	10	5.00	22.3	0.0	31.4
Khmelnytsky region	7.09	0.664	15	13.00	27.2	11.1	34.9
Cherkasy region	7.73	0.794	35	9.50	20.6	40.0	34.1
Chernivtsi region	6.99	0.844	184	27.00	33.0	66.7	31.0
Chernihiv region	7.75	0.412	19	10.00	19.3	25.0	39.2
Kyiv	16.03	3.388	120	11.76	86.2	20.9	30.9

Source: calculated by the authors using [30-31; 35; 36].

Table 3

Indicators of social responsibility in the competitiveness analysis of higher education system of the Ukraine's regions

Region	The share of the disability students in the HEIs of the region, %	The share of students in the HEIs of the region among orphans and children deprived of parental care, %	The percentage of students who are provided by dorms, %	The number of students per 10 thousand population in the region, persons	The share of students in the HEIs of the region who study at the expense of local budgets, %	The number of recorded cases of violations of the rights with regard to students and staff per one HEIs in the region
1	2	3	4	5	6	7
Vinnytsya region	1.16	0.52	85.4	283	9.0	18
Volyn region	1.35	0.59	92.2	257	14.6	11
Dnipropetrovsk region	0.86	0.83	93.5	370	4.8	3
Donetsk region	0.76	0.92	85.9	73	2.4	42
Zhytomyr region	1.18	0.74	88.7	249	9.2	23
Transcarpathian region	1.41	0.35	64.0	180	3.0	35
Zaporizhia region	0.88	0.40	71.9	400	4.3	29
Ivano-Frankivsk region	1.32	0.35	61.9	276	5.3	13
Kyiv region	0.90	0.78	90.2	170	7.2	24
Kropyvnytsky region	1.52	0.95	88.0	160	10.0	32
Luhansk region	0.69	0.62	100.0	83	4.1	44
Lviv region	0.76	0.31	74.8	492	3.0	26
Mykolaiv region	1.06	0.88	73.0	282	8.1	31
Odessa region	0.47	0.50	97.1	475	3.0	41
Poltava region	1.08	0.49	80.9	340	4.5	12
Rivne region	1.30	0.47	97.7	311	5.8	47
Sumy region	1.18	0.58	91.4	330	7.8	19
Ternopil region	1.18	0.35	99.1	398	10.0	31
Kharkiv region	0.83	0.33	97.2	657	3.0	29
Kherson region	0.79	0.75	66.2	256	6.5	48
Khmelnytsky region	1.45	0.52	90.8	251	10.0	34
Cherkasy region	1.11	0.59	87.5	312	8.0	28
Chernivtsi region	1.19	0.46	100.0	345	6.5	13
Chernihiv region	1.29	0.58	89.7	203	10.3	19
Kyiv	0.84	0.29	87.8	1290	1.9	28

Source: calculated by the authors using [23; 32-35].

Table 4

Indicators of economic efficiency in the competitiveness analysis of higher education system of the Ukraine's regions

Region	The share of HEIs graduates in the region who have been assigned to work among students who studied at the expense of the state order, %	The share of HEIs graduates in the region who have been assigned to work among students who studied at the expense of a regional order, %	The number of patents per 100 researchers who performed research in HEIs of the region	GRP (Gross Regional Product) per capita in the region, UAH	The share of innovatively active enterprises in the region, %	The share of innovative products in total sales in the region, %
1	2	3	4	5	6	7
Vinnytsya region	22.4	69.0	191.6	37270	15.4	0.15
Volyn region	21.8	63.0	27.5	30387	10.2	0.06
Dnipropetrovsk region	30.4	67.6	7.5	65897	14.7	0.07
Donetsk region	13.5	47.6	133.6	26864	13.8	0.28
Zhytomyr region	31.4	54.1	16.0	30698	20.6	0.34
Transcarpathian region	20.0	29.1	15.5	22989	11.2	0.00
Zaporizhia region	26.9	61.4	8.6	50609	22.1	0.50
Ivano-Frankivsk region	22.9	41.4	28.1	33170	21.1	0.12
Kyiv region	23.4	52.1	10.7	60109	16.6	0.32
Kropyvnytsky region	14.6	52.0	16.5	39356	17.9	0.30
Luhansk region	11.6	89.8	47.4	10778	13.2	1.51
Lviv region	14.3	26.7	8.9	37338	20.6	0.71
Mykolaiv region	23.9	68.7	5.3	41501	23.1	0.03
Odessa region	25.3	64.5	13.2	41682	20.9	0.37
Poltava region	28.8	81.9	17.1	66390	14.0	0.00
Rivne region	11.2	53.6	38.8	30350	17.0	0.07
Sumy region	31.0	73.7	4.6	37170	17.8	3.38
Ternopil region	12.6	29.5	76.8	24963	26.1	0.55
Kharkiv region	27.1	41.5	7.9	45816	30.5	1.89
Kherson region	15.3	75.4	17.6	30246	19.8	0.06
Khmelnytsky region	22.4	46.6	31.5	31660	12.8	0.01
Cherkasy region	10.9	51.8	16.0	40759	16.1	0.08
Chernivtsi region	27.1	74.2	22.5	20338	20.4	0.00
Chernihiv region	10.1	50.8	4.0	35196	15.2	0.14
Kyiv	16.5	32.8	6.7	155904	23.1	0.20

Source: calculated by the authors using [32-35; 30-31].

Analysis of the competitiveness of higher education systems in Ukraine's

regions by the criteria of social responsibility gives reason to argue that the problem of low access to higher education for children with disabilities and other socially vulnerable groups is relevant for most regions. The share of such categories among students of Ukraine does not exceed 1.5 %, then, for example, in Poland this indicator is almost twice as high.

There is a significant uneven distribution of Ukraine's regions by the level of participation of regional authorities in the financial support of higher education. The proportion of students who participate in universities at the expense of local budgets differs among regions of Ukraine by almost eight times.

Indicators of economic efficiency of higher education systems of the Ukraine's regions are presented in Table 4.

The regional distribution of higher education systems according to the criterion of economic efficiency is the most uneven in terms of the indicator «The number of patents per 100 researchers who performed research in HEIs of the region».

The lack of statistics on incomes and expenditures in higher education in Ukraine at the regional level makes it difficult to analyse the economic efficiency of the higher education system in the region. Despite critical remarks on the reliability of the statistical indicator of graduates employment who were studying through state or local funding, this indicator remains one of the few for comparative analysis not only of the efficiency of state funding of higher education, but also its quality.

Cluster analysis was applied in order to classify regions of Ukraine by the set of competitiveness indicators. Fig. 7 shows a tree of the clustering results of the 25 regions of Ukraine using the Ward's method and a list of indicators presented in the Tables 2-4.

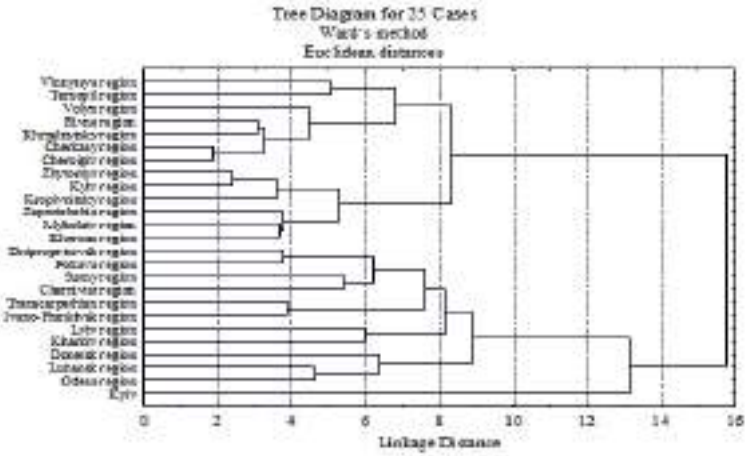

Fig. 7. Cluster analysis of the Ukraine's regions according to the level of the higher education system competitiveness: the tree-like method

Source: calculated by the authors using data tables 2-4.

As Ward's clustering results show, four major types of regions in Ukraine can be identified in terms of the competitiveness of the higher education system. The first cluster includes the capital of Ukraine – Kyiv with universities that provide the highest level of quality according to such criteria as 'the education quality of HEIs entrants', 'the academic reputation of universities in the national ranking', 'the attractiveness of the region HEIs among domestic and foreign students' and 'prospects for employment of graduates' The second cluster combines eleven regions of Ukraine (Odesa, Luhansk, Donetsk, Kharkiv, Lviv, Ivano-Frankivsk, Transcarpathian, Chernivtsi, Sumy, Poltava, Dnipropetrovsk), with generally higher than average level of most indicators of competitiveness, in particular those that evaluate criteria such as 'the academic reputation of teachers and researchers', 'the effectiveness of scientific research', 'attractive for students from other regions of the country', but with a rather large variability of academic rankings of universities. Among the regions that have fallen into this cluster, the Lviv and Kharkiv regions are especially distinguished with the highest values of the academic reputation of teachers and researchers, positions in national and international rankings and the education quality of university entrants.

The third cluster includes the six regions of Ukraine (Kherson, Mykolaiv, Zaporizhzhia, Kropivnitsky, Kyiv, Zhytomyr), that have values of most competitiveness indicator somewhat lower than the average level, s. At the same time, this cluster is characterized by a rather high level of training for certain branches of the economy, but the absence of classical universities with high positions in national and international rankings.

Table 5

Cluster analysis of the Ukraine's regions according to the level of the higher education system competitiveness: the k-means method

Cluster 1	Cluster 2
Kyiv (Ukraine's Capital), Lviv region, Kharkiv region	Donetsk region, Transcarpathian region, Ivano-Frankivsk region, Chernivtsi region
Cluster 3	Cluster 4
Dnipropetrovsk region, Zhytomyr region, Zaporizhia region, Kyiv region, Luhansk region, Mykolaiv region, Odessa region, Poltava region, Sumy region, Kherson region	Vinnytsya region, Volyn region, Kropyvnytsky region, Rivne region, Ternopil region, Khmelnytsky region, Cherkasy region, Chernihiv region

Source: calculated by the authors using data tables 2-4.

The fourth cluster comprises of seven Ukraine's regions (Chernigiv, Cherkasy, Khmelnytsky, Rivne, Volyn, Ternopil, Vinnytsya), that are characterized by a marked lagging behind the top regions by most indicators of competitiveness and the urgency of the problem of entrants migration to neighbouring regions with higher educational and economic potential. At the same time, each of the regions of this cluster has its own strengths. For example, Vinnytsia region has a high level of patent activity of researchers and the attractiveness of medical profile for foreign students. The high level of regional financial support for the universities is distinctive for Volyn, Ternopil, and Chernihiv regions.

Table 6

The results of the variance analysis of the indicators of the higher education system competitiveness of the Ukraine's regions

№	The indicators of competitiveness	Statistical parameters of variance analysis (ANOVA-method)			
		intergroup variance	average of group variances	Fisher's F-test	p-value
1	2	3	4	5	6
1.	The share of entrants with an average score 180 and above according to External Independent Evaluation, %	15.87179	8.12821	13.66875	0.000036
2.	The ratio of HEIs entrants in the region and the number of entrants who have participated the external independent evaluation in this region	14.83517	9.16483	11.33095	0.000124
3.	The number of publications according to the SciVerse Scopus database, per the 100 staff in the region HEIs, units	12.89748	11.10252	8.13170	0.000878
4.	H-Index per one HEI in the region according to the SciVerse Scopus database	10.12362	13.87638	5.10690	0.008247
5.	The highest ranking of the HEI of the region in the University Ranking 'TOP-200 Ukraine'	14.45647	9.54353	10.60355	0.000188
6.	The share of the region HEIs – participants of international associations of HEIs,%	10.34147	13.65853	5.30001	0.007046
7.	The share of foreign students in the HEIs of the region,%	4.16674	19.83327	1.47062	0.251226
8.	The share of the disability students in the HEIs of the region, %	12.35947	11.64053	7.43233	0.001417
9.	The share of students in the HEIs of the region among orphans and children deprived of parental care, %	7.23876	16.76124	3.02312	0.052417
10.	The percentage of students who are provided by dorms, %	3.76263	20.23737	1.30148	0.300182
11.	The number of students per 10 thousand population in the region, persons	14.12078	9.87922	10.00540	0.000268
12.	The share of students in the HEIs of the region who study at the expense of local budgets, %	14.75125	9.24875	11.16462	0.000137
13.	The number of recorded cases of violations of the rights with regard to students and staff per one HEIs in the region	0.07159	23.92841	0.02094	0.995756
14.	The share of HEIs graduates in the region who have been assigned to work among students who studied at the expense of the state order, %	7.55407	16.44593	3.21529	0.043657
15.	The share of HEIs graduates in the region who have been assigned to work among students who studied at the expense of a regional order, %	12.25113	11.74887	7.29924	0.001556
16.	The number of patents per 100 researchers who performed research in HEIs of the region	4.55766	19.44234	1.64093	0.210157

17.	GRP (Gross Regional Product) per capita in the region, UAH	7.95234	16.04766	3.46882	0.034435
18.	The share of innovatively active enterprises in the region, %	7.18851	16.81149	2.99317	0.053945
19.	The share of innovative products in total sales in the region, %	3.85378	20.14622	1.33903	0.288535

Source: calculated by the authors using data tables 2-4

Somewhat different clustering results of Ukraine's regions, although with many similar combinations, were obtained by using the non-hierarchical k-means method. Table 5 presents the results of the cluster analysis of Ukraine's regions by the k-means method.

When the results of a cluster analysis are obtained by the k-means method, it is possible to estimate how different clusters are. The results of statistical analysis of clustering indicators in terms of their contribution to the quality of formed clusters are presented in Table 6.

The application of mathematical and statistical methods for the analysis of large data sets requires inspection of data quality. This is especially necessary for indicators of analysis that have a significant impact on the final results, and, therefore, they should undergo a quality control procedure. For the cluster analysis performed in the present study the parameters of the analysis of variance are presented in the Table 6 to indicate a quality of clustering. For example, the best clustering is for the indicators of competitiveness for which the p-value is less than 0.05.

As can be concluded from the Table 6, a group of indicators (such as 'the share of foreign students', 'the percentage of students who are provided by dorms', 'the number of recorded cases of violations of the rights with regard to students and staff per one HEIs in the region', 'the number of patents per 100 researchers who performed research in the region', as well as 'the share of innovative products in total sales in the region') reduced the quality of regions classification into clusters. However, from the point of view of identifying the strengths and weaknesses of the higher education system in certain regions, these indicators should be subjects of special attention in the competitiveness management.

Thus, the use of cluster analysis allowed us to identify four competitive groups in the competitiveness management of regional higher education systems by criteria of quality, social responsibility and economic efficiency.

Taxonomic analysis of competitiveness of higher education systems of the Ukraine's regions.

Using taxonomic analysis, we can calculate the integral assessment of the competitiveness of the higher education system for each of the regions of Ukraine. It is correctly to carry out such calculations, in our opinion, within each of the clusters, that corresponds to a group of regions with similar values of competitiveness indicators. The value of the integral indicator of competitiveness, calculated using taxonomic analysis, can range from 0 to 1. The closer this value is to 1, the higher

the integral assessment of the competitiveness of higher education system in the region.

Fig. 8 shows the taxonomic coefficients of competitiveness of the higher education system in Ukraine's regions belonging to Cluster 1.

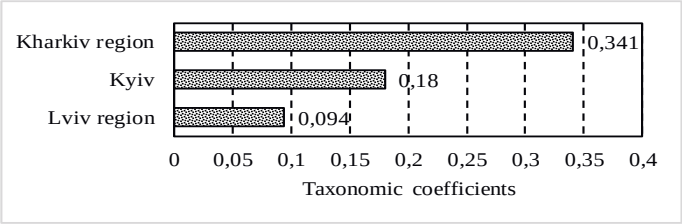

Fig. 8. Taxonomic coefficients of the higher education system competitiveness of the Ukraine's regions in Cluster 1
Source: calculated by the authors using data tables 2-4.

As can be seen from Figure 8, the leader in the ranking of competitiveness higher education systems in cluster 1 is Kharkiv. Kyiv and Lviv region noticeably lag behind the Kharkiv region in such indicators of competitiveness as the share of foreign students, the innovative activity of enterprises and the share of innovative products in total sales in the region.

Figure 9 shows the taxonomic coefficients of the higher education system competitiveness in Ukraine's regions belonging to Cluster 2. Chernivtsi region is a regional leader in this cluster.

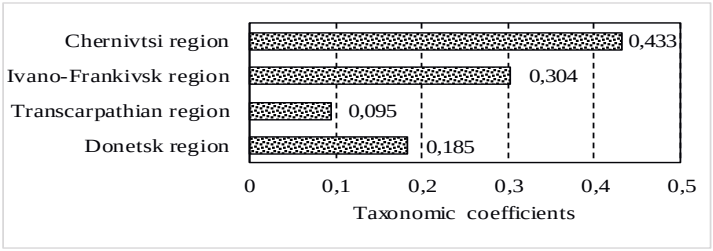

Fig. 9. Taxonomic coefficients of the higher education system competitiveness of the Ukraine's regions in Cluster 2
Source: calculated by the authors using data tables 2-4.

Fig. 10 presents the results of calculating the taxonomic coefficients of competitiveness of higher education systems in Ukraine's regions belonging to Cluster 3.

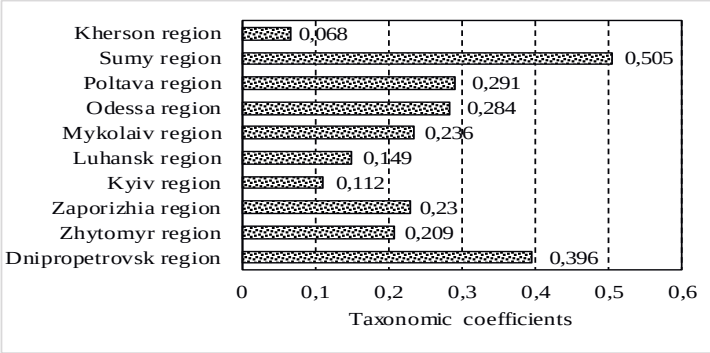

Fig. 10. Taxonomic coefficients of the higher education system competitiveness of the Ukraine's regions in Cluster 3
Source: calculated by the authors using data tables 2-4

Sumy and Dnepropetrovsk regions are leaders in Cluster 3. The leadership of the Sumy region in this cluster is provided by high values of indicators of academic reputation of educators and researchers, sales of innovative products in the region, as well as active cooperation of regional universities with international organizations.

Fig. 11 represents the value of taxonomic coefficients of higher education systems competitiveness in the Ukraine's regions, belong to the 4-th Cluster.

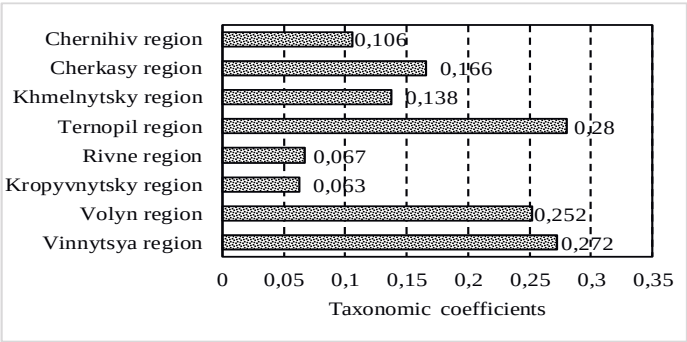

Fig.11. Taxonomic coefficients of the higher education system competitiveness of the Ukraine's regions in Cluster 4
Source: calculated by the authors using data tables 2-4

Ternopil, Vinnytsya and Volyn regions have the best values of taxonomic coefficients of higher education competitiveness in this cluster. The urgent problem for most regions of this cluster is the migration of potential students to regions and countries with the better competitiveness ratings in higher education.

The diversity of the functions of higher education system, its role in the realization of goals not only for personal development, but also the sustainable development of the society, regional and national security, dictate a rethinking of the criteria of the higher education system competitiveness and the application of interdisciplinary approaches to its analysis. The present study offers a conceptual model for the analysis of the higher education system competitiveness and is based on the following principles:

1. The main elements of the higher education system of the region/country are providers of higher education, the results of their activities – products, as well as internal and external stakeholders. The interests of stakeholders, the potential and performance of the providers form a core of the model and are the main objects in the competitiveness analysis.

2. Quality, social responsibility and economic efficiency are the main criteria for the analysis of the higher education system competitiveness, as well as take into account the multitude of higher education goals and functions in society (education, research, public services).

3. It is beneficial to develop various types of applied models for analysis of the higher education system competitiveness and corresponding sets of indicators that depend on the level of analysis (institutional, regional, national) and stakeholder priorities.

The proposed conceptual model was implemented for the empirical analysis of the higher education system competitiveness of Ukraine's regions. Based on a set of indicators of quality, social responsibility and economic efficiency the higher education systems of Ukraine's regions were divided into groups using hierarchical and non-hierarchical clustering algorithms.

Cluster analysis allowed determining four competitive groups of Ukrainian regions in managing the higher education competitiveness. Kyiv, Lviv and Kharkiv regions belong to the cluster with the highest values of the partial indicators of competitiveness.

The use of taxonomic analysis allows to correctly determine the integral assessment of the competitiveness of the region's higher education system within each cluster. The results of the calculation of taxonomic coefficients showed that the leaders in the respective competitive groups are Kharkov region (in Cluster 1), Chernivtsi region (in Cluster 2), Sumy and Dnipropetrovsk regions (in Cluster 3), Ternopil, Vinnytsya and Volyn regions (in Cluster 4).

Statistical analysis of partial indicators of competitiveness also showed that a threat to many regions of Ukraine (especially for Volyn, Donetsk, Zhytomyr, Transcarpathian, Kropyvnytsky, Kherson and Chernihiv regions) is the loss of intellectual potential of young people due to the mass migration of universities graduates of these regions to other Ukraine's cities (Kyiv, Kharkiv, Odesa, Dnipropetrovsk), as well as abroad.

The proposed approach to the analysis of the higher education system

competitiveness is based on the using of open databases of the State Statistics Service of Ukraine, the Ukrainian Centre for Educational Quality Assessment, educational portals of public organizations. This provides with additional benefits associated with the possibility of implementation and using the proposed approach at different levels. In this regard, we consider it expedient to introduce in Ukraine the monitoring of regional systems of higher order in managing enhancing their competitiveness and balancing of development.

The further research will be related to the study of the interconnection of integrated characteristics of the higher education systems competitiveness of Ukraine's regions with the intensity and directions of the educational migration flows.

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THE ROLE OF PEDAGOGICAL MANAGEMENT IN THE DEVELOPMENT OF ENTREPRENEURIAL COMPETENCES OF STUDENTS OF AN AGRICULTURAL UNIVERSITY

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The problem of developing entrepreneurial competences of students in higher education is conditioned, first and foremost, by the importance of small and medium enterprises in the socio-political and economic life of the state. Effective activity of small enterprises influences economic growth of Ukraine, provides employment in the country, which directly raises the standard of living of the population.

The problem of the development of entrepreneurship in Ukraine still remains relevant, despite the 2017 Strategy for the Development of Small and Medium-Sized Entrepreneurship for the period until 2020 [1] and other efforts of the state to create favorable conditions for small business. Researchers (I. Shevchuk, O. Petryshin), conducting research in this area, note that in developed European countries, small and medium-sized businesses account for 90% of all enterprises and provide approximately 70% of the employed population with jobs. The contribution of small and medium-sized enterprises to value added at cost of production is about 60% [2]. In Ukraine, the state of entrepreneurship development remains rather low, as evidenced by statistical data (Table 1).

As we see from table. 1, starting in 2014, the total number of business entities of large, medium and small entrepreneurship in Ukraine is gradually decreasing. According to the State Statistics Service of Ukraine in the sphere of entrepreneurship, only about 40% of the working-age population is occupied [3].

The discussing of the problems hindering the development of entrepreneurship in Ukraine, scholars for a number of reasons note «... a declarative form of state support; the lack of human skills, the lack of practical skills of entrepreneurship in the conduct of business, the imperfection of the system of training, retraining and staff training for entrepreneurial activity ... « [4, p. 58-66]. This view is shared by many scholars [2, 5], which emphasize the importance of training appropriate to the requirements of the new economy, which have an innovative type of thinking and new competencies.

Table 1

Indicators of structural statistics by economic entities with distribution by size

Year	2013	2014	2015	2016	2017
The total number of	1722070	1932161	1974318	1865530	1805059
Great	659	497	423	383	399
in percentage to the total number of entities	0,04	0,03	0,02	0,02	0,02
Medium	20983	15906	15203	14832	14937
in percentage to the total number of entities	1,22	0,82	0,77	0,80	0,83
Small	373809	324598	327814	291154	322920
in percentage to the total number of entities	21,71	16,80	16,60	15,61	17,89
Individuals-entrepreneurs	1325925	1591160	1630878	1559161	1466803
in percentage to the total number of entities	77,00	82,35	82,60	83,57	81,26

Source: built according to the official website of the State Statistics Service of Ukraine [3]

To such innovative and practical-oriented competences of a modern specialist include the ability to self-employment and entrepreneurship. Comprehensive analysis of scientific research, including dissertation [6, 7, 8] showed that the presence of established entrepreneurial competencies is considered by scientists as one of the indicators of the competitiveness of a specialist. At the same time, despite the widespread use in the scientific literature, mass media, the everyday life of the term «entrepreneurial competencies», scientists have not come to a common opinion about its definition.

V. Maikovskaya defines entrepreneurial competence as a personal or business quality, a skill, a model of behavior, the possession of which helps to successfully solve certain business tasks and achieve high results [9]. Y. Banit believes that this is the ability of a person to embody ideas in the sphere of economic life, and explains the term as an integrated quality based on creativity, creativity, innovation, ability to risk, the ability to plan and organize entrepreneurial activity [5]. According to T. Lytvyn, entrepreneurial competence is the ability of a person to effectively organize personal and collective labor and entrepreneurial activity, to analyze the situation on the labor market, to evaluate their own professional opportunities [10]. L. Trusova under the entrepreneurial competences understands the range of issues in which a person has authority, knowledge and experience to successfully conduct entrepreneurial activity; behavior that is demonstrated in the process of effectively performing business tasks [6].

It should be noted that in their research, scholars, despite different approaches to understanding terminology, are united in the idea that the lack of a person's entrepreneurial competence reduces its competence in business activities. Consequently, the more entrepreneurial competencies are in the human arsenal, the more likely it will cope with business tasks.

Most modern educators [9,10] note that both students and university graduates have enormous innovative and entrepreneurial potential, which should be developed by the institution of higher education through the provision of access to entrepreneurial business education and the creation of an environment that will foster entrepreneurial culture, aspirations and implementation of business ideas.

Quite logical seems L. Kowalska's opinion [11], which emphasizes that the formation of intellectual capital, as a factor in the development of entrepreneurial skills, should take place in the system of «teacher-student-entrepreneur-practitioner-business environment» and justifies the feasibility of creating an «intellectual platform» for the development of economic business education of students. The scholar emphasizes that entrepreneurship is associated with young people with the process of personal professional growth, social adaptation and formation through the formation of business ideas, the development of business projects and their implementation into real practice and offers a platform that will enhance the quality of economic business education of students.

We agree with scholars who believe that the development of entrepreneurial competences in higher education institutions requires concerted actions that will ensure the achievement of planned learning outcomes and the successful socialization of young people in terms of inclusion in entrepreneurial relations.

Analysis of the discourse of scientists on improving the quality of education in accordance with the needs of the economy, shows that the most frequent proposals on:

- viewing and adjusting the content of learning in the light of the dynamics of updating knowledge in the information society;
- creation of a specific business-centered entrepreneurial learning environment for further self-realization of youth in business organizations;
- providing the freedom to choose the varied content and programs of entrepreneurial education;
- taking into account the place and role of specialist in innovative processes of economic development and timely adjustment of pedagogical conditions of professional training [12];
- expansion of forms of interaction between higher education and business-oriented structures for success;
- the importance of developing creative thinking of higher education graduates;
- forming young people in the spirit of competition, innovation and entrepreneurship [7];
- implementation of tactics aimed at the preparation of a competitive, creative and mobile young person with entrepreneurial competencies [8].

According to Bengt Johannisson, a well-known theorist in the field of entrepreneurial education, for a successful entrepreneurial activity it is necessary to: understand why a person wants to do this («to know why»); be able to do this («know how»); understand who it is important to interact to make a business successful («know who»); Have a good intuition, that is, feel when you need to start your business («know when»); and, finally, to have knowledge on the subject of business («to know that») [13].

Consequently, we can assume that the development of entrepreneurial competences of higher education graduates must be carried out in dialectical unity, taking into account the abovementioned professionally significant qualities. The basis of the concerted efforts of the teaching staff of the institution of higher education should be the image of the future entrepreneur in its unity and integrity. The structure of effective systemic training of future agrarians may consist of the following stages (Table 2).

Table 2

Structure of the process of professional training of future agrarians

COMPOSITION	PURPOSE
Professional training	Mastering of professional knowledge
Professional skills development	Professional skills development
Professional education	Educating the personality traits necessary for the successful application of professional knowledge, skills and abilities
Professional practice	Acquisition of professional experience
Actualization of professional choice	Motivation for professional formation and professional activity
Immersion in a professional environment	Formation of professional culture
Individualization of "style"	Formation and development of individual technology of professional activity

It is known that the higher the qualification has a specialist, the more complicated is his professional activity, the more uncertain conditions of this activity, the more complex, more varied and more individualized should be its preparation. An analysis of modern scientific research, psychological and pedagogical literature gives us reason to assert that the development of entrepreneurial competences of the future specialist-agrarian is a purposeful, multicomponent, multifunctional, logical and dynamic process, which today requires not only the introduction of a competence-based approach to learning, but also the obligatory organization of the subject-subject management pedagogical process. At the same time, it is necessary to take into account that not only the content of education, but also the educational environment of higher educational institutions, the organization of educational

process, educational technologies, including independent work of students, plays a decisive role in forming the readiness of future agrarians in entrepreneurial activity.

According to the research of specialists, «... the customers of educational services are becoming more demanding for the quality of education. Going back to the past, when the main motive for joining the «high school» was a diploma. Modern youth needs a solid knowledge to use them in the future for their benefit [14].

Obviously, the main subject, designed to solve the tasks of developing entrepreneurial competencies, remains the personality of the teacher, and the high quality of educational services can only be achieved if the teachers continuously improve their skills [15] and mobile responses to changes occurring in the educational space.

To summarize, entrepreneurial competence provides the possession of personality means and techniques that allow it to effectively organize its own and collective entrepreneurial activity [9], therefore today it is very important, without breaking the continuity of the national education, to raise the quality of training of specialists to a new level, when the results of entrepreneurial professional the activities of graduates will be able to make an incomparably greater contribution to socio-economic development of the country.

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RISKS IN SOCIAL LIFE (SOCIO-PHILOSOPHICAL ANALYSIS)

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Risks always characterize the life of man and society, they represent objective reality, correspond to all spheres of practical activity. At the beginning of the 21st century a diversity and intensity of risks are growing at a rapid pace. Risk becomes an inalienable characteristic of a current social practice. The essence of the concept of «risk» was studied during the history of mankind, in particular in the writings of Plato, Aristotle, T. Hobbes, G. Hegel. The German philosopher G. Hegel considers the risk as a dialectical deployment of the whole set of moments of the reality in the process of knowledge, proves the necessary character of it. In the modern studies, the notion of «social risk» as an integral part of social development, which requires a profound socio-philosophical analysis, plays an important role.

Relevance of the research. Risks constantly accompany the life of a human and society. They represent objective entity, correspond to all areas of human practice. The urgency of their in-depth analysis is connected with the current global range of problems. In the present world there is a growth of chaos, uncertainty, aggravation of crisis phenomena in the economy, political, social and spiritual life of society, caused by acute competition, restriction and non-reproducibility of natural resources, mass introduction of high-risk innovations, uneven development and the lack of stabilisation foundations of society.

The state of theme research. At the beginning of the 21st century the diversity and intensity of risks are growing at a rather rapid pace. Scientists around the world began to prove the need for risk as an integral feature of the modern society, capable to cause devastating consequences, and eventually – ruin. Today, society generates a variety of risks that contribute to its instability and self-destruction. Risk becomes an inalienable characteristic of the current social practice. The modern society implicitly includes the possibility of risk, it is a carrier of a permanent high degree risk.

Social risks include such phenomena and processes of the social sphere of society, which carry the danger of social destabilization, are quite complex in their structure with possible societal consequences that complicate the objective prediction of sustainable development. Social risk determine the appropriate level of social and economic tension both at the local level and at the level of the entire world community. Social risk poses a certain danger that arises within the social sphere of society, and has destructive consequences affecting the life of individuals, social groups and society in whole. Social risk is a specific way of organizing social

relationships, interactions and people's relationships in conditions of uncertainty, manifestation of chaos. In this case, the physical and spiritual forces of a man acquire not predictably defined character, but mainly random, probable, unpredictable.

The purpose of the study. The notion of «risk» comes from the Late Latin-»outbreak», which is not observed. At the level of public practice, risk means the measure of a possible, anticipated defeat due to one or another action, or a certain line of behavior. Risk is regarded as a kind of activity whose purpose is to overcome an uncertain situation, an uncertain choice and the possibility of achieving an unpredictable result, and in another respect - the possibility of a defeat and deviation from the goal. The basis of social risk is a kind of activity aimed at obtaining results by extraordinary means in conditions of uncertainty and the inevitability of free choice. The phenomenon of uncertainty in the manifestations of social risk proves the need for a substantial analysis of gnosiological aspects in its definition and existence.

The concept of «risk» is not an absolute innovation in scientific researches of the 21st century. Risks in all spheres of social life and knowledge existed throughout the history of mankind and were studied in the writings of ancient Greek philosophers, in particular Plato, Aristotle, Epicurus, and Seneca. At the stage of the primitive society, the most significant risks to which people were subjected were natural risks, as well as illnesses and high mortality. During the period of the slave system, economic and military risks became significant. In the Middle Ages there is a new type of risk - spiritual. At the end of the eighteenth and early nineteenth centuries there is the formation and development of technogenic risk associated with scientific and technological progress, which was ensured by the mechanization of production processes, numerous scientific discoveries at the experimental and theoretical levels of natural science. Throughout the nineteenth century the accumulation of social and national risks is realized. In the middle of the twentieth century a transition to a new level in social development is taking place – the emergence of postindustrial and informational societies, which absorb previous types of risks and generate a lot of new ones. These include terrorism, information risk, which has a global character.

The philosophical comprehension of the category of «risk» is reflected in the works of thinkers of the 17th – 19th centuries, in particular in the works of T. Hobbes, B. Pascal, I. Kant and G. Hegel. Thus, the English philosopher T. Hobbes analyses the state of the society of that time, the society of «absolute risk» and proposes a «social contract» as a certain way to «minimize a risk». Mathematical theories of the French philosopher B. Pascal lead to the understanding that a person can make decisions in a situation with an indefinite result and predict the future with the help of mathematical calculus, that corresponds to the appropriate level of the development of formally mathematical methods of the 17th century. In his discourse, the Germanan sociologist of the 20th century O. Renn characterizes the category of «risk as a division of the reality and the possibility».

The dialectical definition of the problem of risk is found in the philosophical

works of the classic of German idealism of the first half of the 19th century G. Hegel. From the very beginning it should be noted that the explanation of the category of «risk» as a division of the true reality and the possibility in the modern studies has essentially a distinct metaphysical character. The appeal to classical German philosophy reveals the deep dialectics of the essence of the relationship of the possibility and the reality as an epistemological basis for determining the category of «risk». In his most famous philosophical work «Science of Logic» G. Hegel reveals the essence of dialectical knowledge as the deployment of the totality of the reality's moments.

The German philosopher makes statements absolutely unheard for that time, that a chance is necessary, and the very necessity defines itself as a chance. A chance has a certain ground, because it is random, but at the same time it does not have a reason, because it is accidental. A certain chance, most likely, is an absolute necessity. Deployment of reality, according to G. Hegel, takes place in complex dialectical processes of the intercourse of the possibility and the reality. «The kingdom of the possibility is an infinite variety, but a variety is a contradiction,» argues the German philosopher. According to the author of the «Science of Logic», the unity of the possibility and the reality is an accident, but an accident is something real, defined at the same time only as possible. «The true reality is, first and foremost, a thing with many properties, an existing world; it is preserved in the variety of simple existence» [3, p. 193-194].

G. Hegel, relying on the spiritual and practical principles, proves that in the process of activity the reality changes, «something manifests itself due to things that it produces». The transition from the real possibility to the reality is a movement, a process that has moments of constant change of the opportunity, each of which arises from the other. There is not only a transition in this denial, but a merger with oneself – a specific dialectical synthesis. This movement forms certain real possibilities, the available moments in such a way that «each of them arises from the other, that is why in this denial it is not a transition, but a merger with oneself» [3, p.195]. The true reality has its certainty as a direct being, it is a variety of existing circumstances. The unity of a necessity and a chance, Hegel calls the absolute reality, the whole set of its moments, at the same time, the necessity is relative, because it has its source point of existence only is in the accident.

If something is possible or impossible, depends entirely on the variety of content, that is, from the whole set of moments of the reality, which, in its deployment, manifests itself as a necessity. Thus, the dialectical development of the whole set of moments of the reality in the process of knowledge proves the necessary moment of transition of a specific possibility to reality, and vice versa, indicating the objective nature of the existence of the category of «risk», as a reflection of the complex process of the relationship between possibility and reality. Risk is an objective category of a modern scientific search, as it brings the moments of uncertainty into practical activity of a man, always present in the surrounding reality. And in the

form, the concept of «risk» is subjective as a conceptually perfect reflection of the objective process of the development.

Further development of the category of «risk» is based on the principles of synthetic and analytical activity, which characterizes the variety of objective spheres of its existence. The concept of «social risk» was first proposed by a German sociologist of the 20th century. U. Beck in the work «Risk Society: Towards a New Modernity». The subject of the study is the social changes that make up the risk factors in the society in the era of late modernism. Beck outlines two basic concepts: «risk society» and «reflexive modernization». In the first theory, the German sociologist argues that in the process of development the modern industrial society, which is characterized by the distribution of material goods, is gradually replaced by a «risk society», a characteristic feature of which is the production and consumption of risks. According to U. Beck, «risk society» starts forming when the risks inherent in an industrial society begin to go out from the control of social institutions that ensure the safety of an industrial society. The leitmotif of his work «Risk Society» is the thesis that the creation of new technologies leads to the production of new technological risks.

The problem of risk is directly related to rapid industrialization and unpredictable negative consequences of modernization. Risk is a systematic interaction of society with threats and dangers that characterize the modern process of modernization. Risks are a consequence of the threatening power of modernization and the resulting feelings of uncertainty and fear. The German sociologist argued that social risks are not one-offs, but processes that have the appropriate phases of extension and risk taking. The phase of risk consumption leads to its accumulation and growth. The risk concentration leads to the «boomerang effect», that is, the feedback is born, and consumption of risk becomes both its beginning and its production. Social risks are characterized by the impossibility of their formalization and control. Risks are comprehended by people based on relevant knowledge. U. Beck divides the whole society into risk experts and not experts. Certain mediators between the scientific knowledge and the public belong to risk experts, for example, the mass media, educational and scientific institutions, which influence the readiness of the population to perceive the relevant phenomena and processes as a risk [1].

The study of social risk is a subject of research in the works of the modern German sociologist N. Luhmann. In his work, «The Notion of Risk», N. Luhmann explores the ontological reasons for risk. In his opinion, the concept of «risk» raises the question of the possibility of rational forms of human activity. The German sociologist argues that risk is the main feature of social reality, in which there is a free choice of human activity – the choice of a multitude of alternatives, that forms an uncertain nature of the future. Thus, N. Luhmann claims that there is no behavior free of risk-. Determining the concept of «risk» a researcher must operate not a real object, but opposite distinctions. N. Luhmann uses two oppositions to determine the risk: «risk and reliability» and «risk and danger». In these contrasting

terms, the concept of «risk» means an overly complex set of circumstances with which you usually have to deal, at least in modern society. The opposition «risk-reliability» reveals the problem of quantitative measurement, and the opposition «risk-danger» emphasizes that the decision on the impartiality of risk is of constant importance. According to a German sociologist, there is no risk-free behavior, for the aforementioned oppositions, «risk and reliability» and «risk and danger» there is no absolute value [4].

The modern English sociologist A. Giddens believes that the invasion of abstract systems, such as information, money systems, labor distribution, utilities, etc., along with the dynamic nature of knowledge, means that the perception of risk enters into practically every person's activity. The whole world of upcoming events is open to human transformation within the limits set by risk assessment. «Colonization of the future» creates new forms of risk, often institutionalized, which influence every person. Reflective monitoring is inherent for such risk forms. A. Giddens singles out «adaptive reactions of subjects» in relation to risk awareness. The English sociologist refers to them: the pragmatic acceptance of risk, which means concentration on everyday problems for survival; constant overcoming of obstacles; restrained optimism, despite any dangers which exist nowadays; cynical pessimism, which expects direct involvement in troubles caused by dangers with significant consequences; a «radical commitment» – is a practical struggle with existing sources of danger. A. Giddens considers the notion of «risk» in close connection with the notion of «trust». He believes that social action, which is always risky, arises as a result of a decision that concerns to a certain confidence in the social system. Trust is a necessary condition for reducing or minimizing the risk. Thus, lack of trust can lead to destructive consequences for the social system [2].

Summing up, it should be noted that the specificity of modern society is that social reality changes with extreme speed, forcing all members of society and society as a whole to function in such situations. In this case, the uncertainty serves as the constructive basis, that is, the necessary environment for the emergence of risk, so the growth of uncertainty can entail even more risk. «Risk» is an objective category of modern scientific search, since it introduces uncertainty in our actions, present in the surrounding reality, while the content of «risky behavior» is a subjective, perfect reflection of the scientific process of cognition.

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MODELING OF COMMUNICATION BETWEEN GOVERNMENT AND PUBLIC DURING REALIZATION OF SOCIAL PROJECTS IN UKRAINE

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The feedback from the public to the institutions of governance of the state, region or community is a decisive factor in ensuring the effectiveness of these institutions' activities. The absence or even the difficulty or delay in the transmission of information from the public to the institutions of governance and from the institutes of governance to society necessarily leads to negative consequences.

During the social projects implementation e-democracy tools provide a large number of new channels for feedback from the public to the authorities. They also allow the justification of decisions from the authorities to the public. This new factor for Ukraine requires significant communication between the authorities and the public.

Thus, the study of the peculiarities of communication between the public and government in the process of social projects implementation under the conditions of electronic democracy is an actual scientific and important practical problem.

As it's shown in [1,2] the necessary factor for the success of the public or region development, especially in the context of social projects implementing, there is the presence of inclusive political and economic institutions.

Inclusive institutions [2] involve the widest possible population in participating in decision-making. Electronic democracy (e-democracy) is a powerful tool for the effective functioning of such institutions.

In the strategy for the development of the information society in Ukraine [3], e-democracy is defined as «a form of social relations in which citizens and organizations are involved in state-building and public administration, as well as in local self-government through the wide use of information and communication technologies».

It is emphasized in [4,5], that in the general sense e-democracy implies involving the public in solving various socio-political tasks with the help of modern information technologies.

Today, Ukraine is in a state of hybrid war, when the informational and psychological influence from the outside sometimes affects the lives of citizens both at the state level and at the regional level [6]. As a result, electronic media become almost the only source of information for the population. Today, all mass media actively operate in electronic form, therefore, in our research the term «mass media» will be applied to their electronic form. Social networks are not yet controllable; besides, in emergency situations they usually carry out destructive influence, causing panic, violence and fatalism. So it does not help in emergency resolution. The psychological reasons of this are described in [7], and consolidated effects (mostly destructive) are called in [8] «crowd effects».

The purpose of the investigation is to develop approaches to modeling the communication channels of the public and authorities under the conditions of social project implementing in the context of e-democracy and public administration.

Consider the construction of a model for describing the peculiarities of making decision by the public in the process of it communicating with the state and regional authorities. To do this, we modify the well-known model of Hoteling [1,9,10], which allows aggregating of the individual preferences.

Let's consider the individual preferences of people for their use when they make a common choice by voting. To do this, we will use the well-known «utility function» [10,11], which allows analyzing of the various alternatives. The utility feature helps a person to organize his thoughts, choose the best of all solutions, comparing them with each other. In other words, the utility function can reveal the benefits of one solution compared to others.

Let's consider the case when the utility function of an individual is convex upward and has one maximum (has one peak). This means that our individual chooses the only one opinion (decision) that is most appropriate for him from all possible choices. Every other decision (opinion), information and alternative the individual considers «less important» for himself. And the «further» this thought, this alternative lies on the «peak», so it is less important for him or the less he trusts her.

Let's introduce the concept of «median» individual. The median individual is called an individual M, for which the number of individuals with individual preferences satisfying the relationship $q_i<q^M$ is the same as the number of voters whose individual preferences satisfy the relationship $q_i>q^M$..

The wide application of the above-described approach to the description of social choice is based on the median voter's theorem (MVT) [9]. The formulation of the theorem is given in [1] and a translation into Ukrainian in [10].

The median voter's theorem of Hoteling. Consider a set of possible choices for an individual, let q is the individual choice, and let M is the median individual who chooses the ideal point q^M. If all individuals have the one-peak functions of, then:

1) q^M always wins any other alternative $q' \epsilon Q$ if $q' \neq q^M$ at pair competition;

2) q^M is always the winner in a direct voting with an open list.

Apply MVT to modeling of communication between the public and authorities during the social projects implementing in the context of e-democracy and public administration.

Public opinion, that is, the aggregated set of human preferences, is formed now by the media. Caused by development of e-democracy, the intensity of this process will only grow. Using MVT proves that the main contribution to public opinion is made by the median individual. Therefore, the formation of the median individual «necessary» thought is an important component of the interaction of management structures and mass media both at the national and regional levels.

During communication between authorities and the public it is important to create such a public opinion that will help society in its effective development, primarily by implementing social projects and will eliminate the unwanted deviations (for example, the negative consequences of emergencies). The most powerful channel for this is the electronic media.

The electronic communication channel between the public and government provides a unique opportunity for Ukraine to justify those decisions which are making by state and regional authorities. Moreover, only the electronic communication channel is capable to provide an effective feedback from the public to the authorities at the stages of discussing proposals and analyzing of the consequences of proposed government making decisions. From this position, such a method of using electronic mass media becomes the most important factor of e-democracy in Ukraine.

The Hoteling's theorem MVT is, in essence, the main model that describes the mechanism of making decision by society. It has led to the emergence of a concept of «middle class». To be able to reliably forecast the public making decisions we need information on the preferences of those individuals who are located near the «medical voter». And the more preferences of this society do not differ much from the median voter's preferences, the more reliable will be the prediction of the public decision making.

Another limitation of using the Hoteling's theorem is that individuals must consciously make their choices. That is, they should have full and objective information about the consequences that follow from it.

Thus, forecasting the future development of the society requires, in essence, the existence of two conditions:

1) the presence of a large number of people belonging to the «middle class», the choice of which does not differ from the choice of the median voter;

2) all «middle class» voters should have full and objective information about the consequences of the their decision.

E-democracy and e-government [4,5] should focus precisely on the implementation of these two conditions. In particular, the condition of increasing the «middle class» belongs mainly to economic conditions. However, economic

conditions (more precisely, economic institutions) are the result of the public choices. In this very sense we have should understand [2] thesis that the political institutions (which are crucial for involving as much as possible the public to making decision) determine successful development of society.

Today in Ukraine the channel for electronic communication between the community and the government is ineffective. The functional model of the activity of this channel today during the implementation of the social project is shown in Fig. 1.

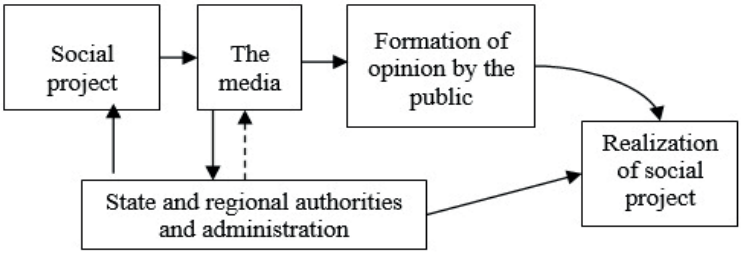

Fig. 1. Existing functional model of the public and authorities communication during implementation of social project

State and regional authorities propose to the public a certain social project (for example, for local budget expenditures). Electronic media inform the public about this project. Unfortunately, such process is realized practically without analytical support. In addition, often the employees of state and regional authorities become the «experts» although they are not impartial. In addition, electronic media often observe only the interests of their owners. All this leads to the fact that information that comes to the public is usually incomplete and distorted (biased). And even the presence in Ukraine of quite a large number of different electronic media does not help citizens to obtain objective information, because for this he would have to carry out a serious analytical study which demanding from the citizen considerable professional skills and great resources of time.

In essence, the state and regional authorities appear in the media only «as necessary», like a result of a request from the media it's shown by dotted lines in Fig. 1. As a rule, they are not interested in the opinion of the public. In particular, so-called «public discussions» are carried out only formally: reactions and arguments from the authorities to such discussions are usually not announced.

Let's describe the model of channel operation for optimal communication between the authorities and the public during implementing an social project, which meets the requirements of e-democracy [4,5]. According to [3-5], the main subjects of communication are the power and the public, and the main actors are the media and public opinion (which reflects the information processes in the society). Today in Ukraine there is not yet another very important participant of the information process – experts and analysts.

Activities of state and regional authorities are carried on the basis of implementation of individual projects, which are limited by the given time. Electronic democracy requires the public to be involved in this activity at all stages of project development and implementation. Schematically, the implementation of this is depicted in Fig. 2.

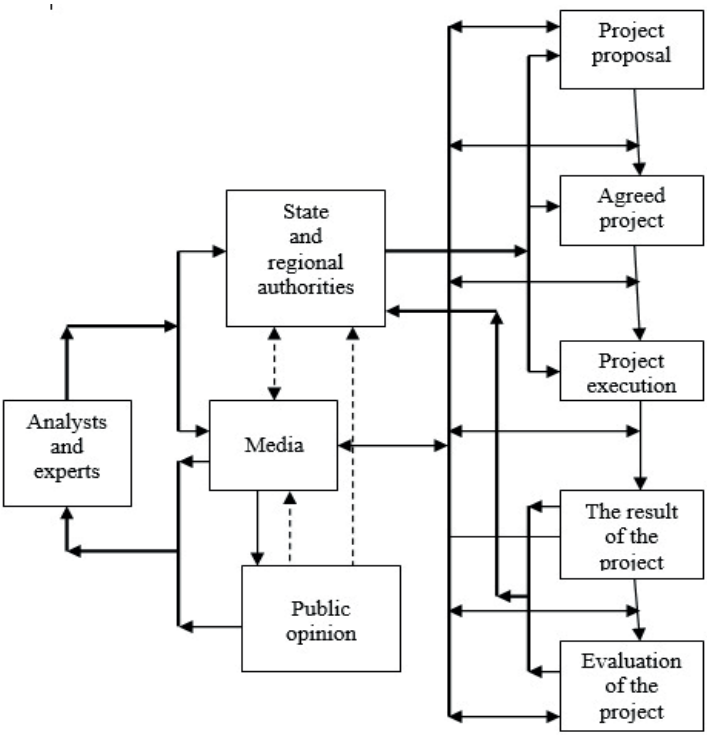

Fig. 2. The scheme for optimizing the communication of authorities and the public during the implementation of the social project

The role of experts and analysts in Ukraine is significantly underestimated and it's ignored too often. Besides, unfortunately, in Ukraine lots of «analysts and experts» are unable to complete their tasks.

At the first stage of communication a new social project begins from the analysis of the public opinion by analytical structures it allows to allocate a certain task as an urgent one.

At the second stage, mass media are launching public discussion of the problem.

At the third stage the government is involved in communication, starting to develop an social project. The proposition of social project is presented to inform the general public.

The fourth stage is a broad discussion of the version of social, which is consistent with the government. Analysts and experts are involved in all channels of communication both with the authorities and with the public.

At the fifth stage, the government adopts the coordinated social project and submits it for information to the public.

The sixth stage is the implementation of the social project. This stage is widely described with the media and is controlled by the authorities. Experts and analysts also have to take into account the response of the public opinion to the implementation of the social project.

The role of independent experts and analysts at this stage is important. In fact, immediately after the social project presentation, experts and analysts and media should co-work both in the direction of «mass media → experts and analysts», as well as in the direction of «experts and analysts → mass media».

In fig. 2 it's shown with dashed lines the interaction between subjects which is carried out indirectly and implicitly. Public opinion influences the activity of the media implicitly, creating ethical and aesthetic norms and rules of journalist's behavior or rules of communication in social networks. Mass media implicitly affect to employees of state and regional authorities, informing them about the needs of the population and its reaction to the actions of the administrative structures. Public opinion also affects to the power, for example, through communicating with friends, comrades and relatives.

Thus, the application of the proposed channel model for optimal communication between the authorities and the public during the implementation of social projects allows not only to transfer effectively information for analysis and substantiation from the government to the public but also to the public effectively influence to the decisions taken by the power. A main factor here is a set of experts and analysts, as well as their relationship with the community, communication channels (like the electronic media) and authorities.

As a result of such a model, the median voter (i.e. the social group in which the median voter is located) gets all the information he needs to make the best choice. The set of feedbacks between the public and the authorities allows effective management of society socio-economic development.

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MODERN MODELS OF BUSINESS EDUCATION AT THE GLOBAL MARKET OF EDUCATIONAL SERVICES

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In today's world education is becoming a key determinant of economic performance and the potential of countries all over the world. Business education, which conceptually is defined as a kind of specialized professional training in the field of corporate management occupies an important place in its system. Separating business education into a separate component is related to a growing need for the effective managers and anti-crisis managers, possessing modern technologies of business management, ability to develop innovative business projects, act on the basis of non-standard decisions. The analysis of masters of business administration models in developed countries studying the trends of their development at the global market of educational services is relevant due to adapting the foreign experience to national system of higher education.

A master's degree in business education – «Master of Science in Commerce» was, for the first time, granted to graduates from Dartmouth College (USA) in 1901. Special «Master of Business Administration» (MBA) program, which provided a qualification degree for professional training of senior managers, was developed in 1908 by School of Business Administration at Harvard University (Harvard Business School). In 1924, it introduced the method of «case study» as the main learning tool within the MBA. Methodology of Harvard Business School was taken as the basis for the American model of business education and became a step

towards the emergence of modern MBA programs analogues. The first business school with the MBA program in Europe – INSEAD, appeared in 1957 in France.

The model of business education in the United States is based on the idea of forming a professional manager. It involves obtaining higher professional education in management based on an already existing diploma of general higher education in the amount of a bachelor's degree by any major. The leading place belongs to Graduate Business Schools, which offer basic types of business administration programs: 4-Year Bachelor of Business Administration programs; 2-year MBA programs; annual specialized master's programs; 3-year PhD programs, which are being considered in an indissoluble organizational and methodical unity. Combining all types of educational programs in business and management within one educational institution is the essence of the American approach to business education. At the same time, every business school cultivates its uniqueness. The Master of Business Administration program is designed for those who want to gain knowledge in business management, seek a successful career or change their field of activities. US dominant positions in the global economy and the presence of large research centers have made the American model of education the most effective and demanded. Except for the United States such model was adopted in the UK, Denmark, Norway, and Cyprus. Business schools of the Eastern Region countries (such as China, India and Singapore) are also attracted to it [1].

European model of business education is based on the training of skilled managers. They receive basic knowledge and a major (engineering, economic, legal, etc.), and advanced training is conducted in the process of practical work, usually on a short-term basis. This model is characterized by a division into pre-experience management education and post-experience management education, depending on whether or not students have practical experience. The undeniable advantages of European business schools are the flexibility of educational programs and entry procedures: most of them, including the prestigious ones, use the so called «rolling deadline» system. Such model of management training is adopted in Germany, Austria, Belgium, Finland, Japan. Programs of British schools are close to the American model. In France, Italy, Spain, the Netherlands and Switzerland, there is a mixed model – a combination of the continental European system of university education with the American business education. The aggravated competition between European schools makes them open campuses in Asian and Eastern European countries, enter into partnership agreements with American business schools, etc. [2].

In Asia, business schools are guided by national traditions and internal corporate peculiarities, in particular, group participation in making managerial decisions and equal responsibility for their implementation. The popularity of business education (only in Taiwan there are about 40 business schools) may be explained by the fact that the teaching content is largely identical to the traditional American programs, but it focuses on analyzing the regional markets. In 2018, the top 100 best business

schools in the world included 15 of the Asian region – China, India, Singapore, South Korea, Japan and Philippines. Leaders among them are: Indian School of Business, Indian Institute of Management (India); INSEAD, NUS Business School, HKUST Business School and Nanyang Business School (Singapore); University of Hong Kong, Peking University (China); Graduate School of Business (Korea) [3].

The world market of business education is presented by several types of educational institutions: 1) classical business schools at the universities, providing education close to academic one (Harvard Business School, University of Pennsylvania: Wharton, Columbia Business School, Chicago GSB, Northwestern University (Kellog), MIT Sloan, University of Michigan (Ross), etc.; 2) close to the university ones, private business schools (HEC Paris (France), London Business School (Great Britain), INSEAD (France/Singapore); 3) business schools, which are created by corporations, but not their structural divisions. (the best known IMD-Lausanne (Switzerland); 4) corporate universities with their own training programs, aimed at providing a strategy for corporate development (General Electric, General Motors, Boeing, Siemens, Cisco, Hitachi, Samsung, Unilever, etc.); 5) educational divisions of large consulting firms (McKinsey & Company (USA); 6) various training organizations, specializing in short-term programs related to advanced training in corporate management [4].

All organizational forms of business education infrastructure support can be reduced to two basic types: classical business schools, that usually exist at universities and mainly prepare experts, business analysts and top managers, and entrepreneurial schools, that function as commercial organizations and prepare mid-level entrepreneurs and managers. According to the Graduate Management Admission Council (GMAC), around 200,000 people enter the business schools around the world every year.

Business administration is a key element of any company, regardless of its field of activity, therefore the demand for MBA programs as educational services is primarily determined by business. Employers pragmatically evaluate the graduates of which schools suit their requirements the most and can bring maximum benefits to the company. Thus, the programs are complex, multidisciplinary (contain disciplines from a wide variety of fields of activity, such as management, economics, finance, marketing, etc.) and universal in terms of implementation of knowledge and skills, received by students during the training. At the same time, they are characterized by a significant variability and clear segmentation of the client base. The advantage of the business world is the use of the MBA programs: «Master of Business Administration», «Master of Business Administration in International Business», «Master of International Management in International Business».

The classical Master of Business Administration program is designed to prepare middle and senior level managers, and involves compulsory practice in large companies. the Full Time MBA Its are – the Full-Time MBA and Part-time MBA – a combination of training and work in the format of modular forms of

conducting classes. A tangible academic slope has the DBA program (Doctor of Business Administration), which provides the degree of a specialized master or a doctor of sciences (PhD) and opportunity to work in an academic environment. The Executive MBA program is focused on senior executives – top managers and big business owners, for whom not only the theoretical training and practice are important, but also the exchange of experience with the colleagues from different global corporations. The program is aimed at forming leadership qualities, creating an effective management team in their own company. For managers who do not have specialized education, accelerated profile training programs (so called pre-MBA, mini-MBA, Distance-learning MBA) are offered.

The basic principle of MBA programs is a practically oriented approach based on the «learning by doing» methodology. To form a person, capable of creative thinking and action in conditions of uncertainty and risk, the innovative educational technologies (such as business cases, coaching, brainstorming, «flipped learning») and active teaching tecniques (master classes, situational games, trainings, webinars, etc.) are applied. Visits to different companies and meetings with their staff during popular abroad «guest lectures» contribute to acquisition of applied knowledge and establishing professional contacts (networking). It develops the skills of solving various business problems in the future. Methods of training also determine the special approach to selection of teachers: they are required to have not only the theoretical knowledge, but also a successful innovative practical experience in creating and maintaining their own business [5].

An indicator of compliance of business schools and MBA programs with international standards is their accreditation. The leading accreditation institutions are:

– British AMBA International (Association of MBA's). Accredits MBA programs to meet their own standards;

– American AACSB International (Association to Advance Collegiate Schools of Business), conducts the accreditation of university business schools;

– European EFMD (European Foundation for Management). Accredits business schools (EQUIS), certain programs (EPAS) and distance programs and courses (EOCCS).

Comprehensive analysis of programs, quality of educational products, their compliance with the expectations of students, qualifications of teachers, career growth of graduates, ethnic and socio-cultural diversity of students and teaching staff are the evaluation criteria for accreditation. The most prestigious is the so-called «triple accreditation» – recognition of a business school or a program by all accrediting entities. It confirms that the business school demonstrates high quality and innovativeness in all aspects of its work, including the quality of teaching and program development; its diplomas are recognized globally and meet all the international standards; the theory is balanced with practice and is easily integrates to the activity of corporations [6].

The rating of the MBA schools is determined by authoritative global editions, such as: «Financial Times», «Business Week», «The Economist», «Forbes», «Wall

Street Journal». According to the British tabloid «Financial Times» American business schools dominate (50 out of 100); followed by the British ones (14), Chinese (7) and French (5). Ukrainian business schools are not represented in the list. Fifty schools of MBA received a worldwide recognition, but only schools that are in the top ten rankings are considered to be the status ones. The advantage of studying in the status business schools is the opportunity to get a job in leading companies of the world, as well as transition from the lower management level to the higher one. According to «Financial Times», the world ranking of TOP-10 business schools in 2019/18 looks as follows (table 1).

Presented data confirms the leading role of the US business schools. Stanford Graduate School Of Business, which is part of the top 10 for several years in a row, is one of the faculties of the Stanford University, among its graduates of which there are Nobel Prize laureates and founders of the largest international companies. Traditionally, high places in the rankings belong to London Business School, INSEAD (France/Singapore), IMD (Switzerland), CEIBS – Chinese-European International Business School.

Table 1

Global MBA Ranking 2019/18

Rank in 2019	Rank in 2018	School name	Country
1	1	Stanford Graduate School of Business	US
2	4	Harvard Business School	US
3	2	INSEAD	France / Singapore
4	3	University of Pennsylvania: Wharton	US
5	4	London Business School	UK
6	5	CEIBS	China
7	6	University of Chicago: Booth	US
8	7	Columbia Business School	US
9	8	University of California at Berkeley: Haas	US
10	10	Iese Business School	Spain

Source: [7].

The general tendencies of business education development are determined by the influence of global processes and consist in globalization of the educational services market, internationalization and integration of education, international student mobility, the growth of innovative methods and technologies of adaptive learning, which consider students' individual needs.

Modern trends of global business education, recently formed at the market of educational services, can be characterized by a number of new features.

1. Life Long Learning. The rapid change of the market situation and the obsolescence of the acquired knowledge led to the emergence of a lifelong learning concept – continuing education of adults. According to it, every person should be interested not only in the professional development and career growth, but also in individual development, self-improvement, through a network of educational institutions or through self-education. To maintain its own professional competence and demand on the labor market, any specialist – business owner, manager or a hired employee has to constantly improve its qualifications. For a manager in particular, it means that advanced training courses, extension in related fields, business seminars and workshops for personal development based on their individual interests and value orientations should be conducted on an ongoing basis. Implementation of this concept leads to a significant increase of the global market of business education.

2. Focusing on the distance formats and interactive learning technologies. The peculiarities of the distance MBA programs are the relevant organization of the educational process; high flexibility; opportunity to use new controlling systems; communication through the different electronic means and devices, such as web-pages, social networks, various mobile applications and programs, participation in webinars, Internet conferences, etc. [8].

The «blended learning model» combines traditional and interactive methods, based on network communication technologies. This leads to changes in the organization of training process and allows MBA programs to become more flexible and personalized. The focus on the «learning by doing» methodology creates conditions for working on specific projects, thereby contributing to the development of entrepreneurial potential.

Currently the «pear-to-pear» concept is also becoming widespread. The large companies and start-ups conduct the knowledge sharing sessions, to which third-party facilitators or moderators are invited. The practice of inviting guest speakers from one industry, for methodological forums, round tables, conferences, where specialists are looking for the common ways to solve a particular problem, is becoming popular.

3. Digital technology breakthrough. There currently a change in technological paradigm is going on: information technologies that have defined the essence of the twentieth century, give their way to Smart-learning technologies, which open the development of Smart-education of the twenty first century. Smart learning is a flexible learning experience in an interactive educational environment with the content from around the world, freely available. Its main goal is to receive learning results, based on the use of tools and technologies of virtual reality systems.

Gamification technologies – the use of gaming practices and mechanisms in a non-gaming context, to engage users in solving problems, to the experts' opinion, give a unique opportunity to get knowledge about the real world through interactive immersion in the virtual one. A key factor in gamification is the creation of an educational electronic environment that promotes a sense of competition, teamwork,

forming a research thinking about the predictability of the result [9].

Leading business schools of the world are also actively implementing one of the forms of distance education – the Massive Open Online Courses, presenting their lectures on the Internet resources, such as YouTube or iTunes. The most popular projects in the field of online education are such projects as Udacity, Udemy and Coursera. The last one, founded by Stanford University, where educational materials are published in the form of online courses. The program involves 108 leading universities of the world, which presented 617 courses, 68 of which are related to business education. Massive open online courses provide the ability to use the interactive user forums that help to build and maintain the community of students and teachers. Some business schools have started launching the online versions of their MBA programs for executives, including Durham è Warwick [10].

4. The transition from standardized to client-oriented learning. Today, managers are in demand in areas that previously were unrelated to business – from freelance to medical services. The need for additional skills and competences led to the emergence of the Specialized MBA, for specific types of business. Prospective ones are those that combine several specializations, for example, business administration in education, engineering, medicine, tourism, etc. There is a need for specialization in classical subjects (for example, not just marketing, but the digital marketing, not just HR, but HR in the era of agility, etc.). Offline specialized programs retain the ability to create and receive not only the new knowledge from teachers, experts, but also the expertise from their colleagues in training [11].

5. The growing demand for creative professionals, able to make non-standard decisions. Dynamic global changes require the leader and his team to work effectively in a state of uncertainty. Therefore, courses in business schools (especially MBA and Executive MBA) are aimed at developing of so-called soft skills – effective communication, team building, ethics and aesthetics of business. Leading business schools believe that the education of a top manager should be based not on the principle of copying the well-known models of charismatic leaders, but within the framework of the mindful leadership concept – conscious leadership. Increasingly popular become leadership programs with a focus on self awareness, which create conditions for team work, contribute to the development of leadership qualities and competences, necessary for successful conducting of business [12].

The formation of business education in Ukraine has began in 1989 with creating of the International Institute of Management (MIM) in Kyiv, in conjunction with the Swiss School IMD. The largest share of the Ukrainian educational services market belongs to the Kyiv International Institute of Management (44,6% of MBA market share), Kyiv Mohyla Business School (16,4%), Kyiv International Institute of Business (15,8%), Kyiv Business School (6,8%), Lviv Institute of Management (4%). In addition, there are a number of other educational institutions and about 90 different training companies. In 2002, the Ukrainian Association for Management and Business Education Development, was created, and united 52 educational

establishments. However, national business schools are mainly focused on the domestic market, and MBA programs are still at the level of advanced training for the mid-level managers. National business education still lacks a practical component. Its problems also include: lack of clear legal regulation and economic resources for development; distrust to the quality of education; absence of specially adapted teaching methods, assessing the quality of knowledge and accreditation systems for MBA programs, increasing competition with Western business schools, etc.

On the pages of special editions the reviews of national MBA programs are usually reduced to their comparison with the programs of developed Western countries. Meanwhile, the subject of a detailed discussion by experts and representatives of the business community should become the correlation between the shifts in business and the situation in business education. Solving these problematic issues will create the conditions for using the potential of national business education for the interests of socio-economic development.

Consequently, the review of global experience of business education allows us to conclude that the training of specialists by the MBA programs is an objective necessity in the current conditions of globalization, which allows to more quickly adapt to current demands of the market. Ukraine's economy, integrated into the international business environment, increases the quantitative and qualitative demand for the leaders of new formation. In its turn, it gives an impulse to important innovations in domestic business education, one of the main evolution vectors of which today is the development of international standards of managers' professional training.

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THE ROLE OF BUDGET FOR CITIZENS IN THE PUBLIC FINANCE MANAGEMENT SYSTEM

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The important role in the development of the public finance system in Ukraine was played by the distinction in the Budget Code of the expenditures, in particular on education, health care, social protection and social security between the budgets of different types. The key criterion for such a distinction was the financial side; it was not the nature of the relevant services and their characteristics.

The provision of education and health services by the state is financed not only through the Ministry of Education and Science of Ukraine and the Ministry of Health of Ukraine, but also through other Ministries and Departments, local budgets. This is historically linked to maintaining on its balance with other Ministries and Departments of various institutions that provide health care services to workers in the relevant industries or train professionals in the respective occupations for these industries. The existence of most such institutions is a historical fact, but in recent years there has been a desire for the leadership of various Ministries to create higher education institutions in their structure.

For example, the education expenditures, financed directly through the Ministry of Education and Science of Ukraine, constitute an average of 70.0% of the total amount of state budget expenditures (general and special fund - together) for this branch. The analysis of the reporting data shows that the largest part of expenditures

for these industries in both the state and local budgets is carried out at the expense of the general fund. However, for different sectors and levels of service delivery, the share of general and special funds does not coincide, due to the peculiarities of the legislative capacity to receive payment for services from the clients.

The structure of expenditures by economic classification in the public finance management system reflects the main directions of the using of funds, and the analysis of these areas gives an opportunity to make conclusions about the goals for which budget funds are directed. In the structure of expenditures according to the economic classification is the largest the share of current expenditures of the general fund of the state budget, which since 2002 amounted to more than 88.0% of the annual plan.

The studying of the dynamics and structure of expenditures by economic classification shows that the increase in expenditures on education, health care and social security is mainly due to the increase of the minimum wage and energy costs (in terms of expenditures for the maintenance of budgetary institutions), as well as the subsistence level (in the part of social protection of the population). Given the fact that a significant part of education and health services is financed from local budgets, state support can be provided through the using of intergovernmental fiscal mechanisms.

So, at the expense of a subvention from the state budget for the implementation of investment projects in 2003, it was aimed at education - 32.9 billion UAH, for health care - 41.5 billion UAH; in 2004 for education - 97.1 billion UAH, for health care - 76.7 billion UAH; in 2005 for education - 35.6 billion UAH, for health care - 37.5 billion UAH. In the 2009 budget, due to the economic crisis, there was no such financing [3]. In 2015, education was directed at - 33.3 billion UAH, for health care - 12.7 billion UAH; in 2016 for education - 38.6 billion UAH, health care - 12.8 billion UAH; in 2017 for education - 41.2 billion UAH, health care - 15.8 billion UAH, which indicates an increase every year [3].

Thus, it is clear from the data that there is no stable tendency regarding the amount of state support. It can be argued that in general both dynamics and the structure of these expenditures are influenced by the factor of insufficient reformation of these spheres and the lack of an effective strategy for their development. In expenditures of the consolidated budget of Ukraine, education is the largest share of expenditures for general secondary education (more than 40.0%), since it is the most massive and compulsory.

The expenditures for higher education occupy the second place in the structure of the consolidated budget expenditures on education (their share is equal to 30.0% per year for the specified period of time). Funding for preschool education is carried out annually in the amount of about 11.0% of the consolidated budget expenditures for education. The share of consolidated budget expenditures for organizing of vocational education is approximately 6.0% per year. Only 1.0% of education costs provide funding for advanced training and other types of post-graduate training [2].

The processes of budget decentralization that began in Ukraine in 2015 led to a decrease in the share of expenditures on education in the state budget and a corresponding increase in their share in local budget expenditures at all educational levels. Unfortunately, the state still continues to consider the cost of education as an element of social policy, and not as an investment in the human capital of the country [4]. An intelligent and balanced strategy for financing science and education should demonstrate that funds are used rationally, thoughtfully and transparently. It will form an appropriate level of trust between the various interest groups and agencies in the financing of education and science.

The basis of structuring sources of financing for all parts of education (preschool, extracurricular, secondary, vocational, higher) should be a balanced approach based on a combination of funding from local and state budgets, and from private sources. All levels of education, except for higher education, are financed through an educational subvention from the state budget, as well as financing from the local budget. For vocational education, state funding should be provided for the training of specialists in the professions of national importance.

The amount of educational subvention depends on the formula, which is developed taking into account the following parameters: the contingent of pupils of different types of educational institutions; fullness of classes; adjusting the rates used for the number of pupils of different types of educational institutions and depending on the location of the educational institution [1].

The network of budget institutions and educational institutions, which are directed to the state budget, is also located in different regions of the country. However, there are no data on the implementation of state budget expenditures in the regional section. It applies not only to expenditure on education but also to all types of expenditures. The inability to estimate financial flows in the region is a systemic methodological problem.

The state budget funds that are used to keep institutions and institutions or to carry out any national measures in the region (for example, centralized procurement of computer classes) also have an impact on the socio-economic development of this region. The lack of transparency in the process of regional distribution of state budget funds, and the lack of interest of central executive authorities in obtaining such information testify to the imperfection of the education management system [6].

The facts on the share of the special fund show that the volume of funds received for paid services by higher educational institutions is almost equal to the amount of funds financed from the general fund of the state budget. This tendency requires an assessment of the appropriateness of transferring funding from institutions of higher education from the system of maintenance to the system of public procurement of services in the system of public finance management.

The solution of this question has considerable potential for more effective use of state budget funds. Therefore, the average annual share of expenditures of the special fund of the state budget directed to the maintenance of institutions of higher

education is 52.0%. For comparison: in local budgets, which almost do not finance higher education, the share of general fund expenditures significantly exceeds the share of special fund expenditures and equals more than 92.0%. The important principle of financing education should be the focus on the consumer. The true interests of the state are inseparable from the interests and needs of citizens. If education does not serve the needs of education providers, then applicants ignore such education.

It was established by the Budget Code of Ukraine that at the expense of the state budget, services are provided for almost all types of health care [1]. However, not all people have access to these services. Only institutions of highly specialized care and clinics of research institutes provide services for the entire population, based on medical necessity and subject to the availability of referral from primary or secondary care institutions, and in certain cases for the payment of their services. For the rest of the institutions, access to the population is limited. This is mainly due to the departmental subordination of such institutions and their focus on servicing only employees of the relevant Ministries and Departments.

The average annual share of state budget expenditures on health care in the structure of consolidated budget expenditures is almost 25.0%. Article 87 of the Budget Code of Ukraine defines the list of health care expenditures financed from the state budget funds [1]. Despite the fact that public health is a public function, its implementation is largely delegated to local self-government.

Health care institutions that provide primary and secondary care, serve the entire population of Ukraine, which explains the significant proportion of local budgets in financing this industry. The largest share of expenditures on health care in the structure of local budgets belongs to oblast budgets and city, Kyiv. This is due to the fact that at the expense of these types of budgets funded the provision of almost all types of assistance.

The differentiation of health expenditures between budget levels is, of course, a positive step in the development of a public finance management system. In general, it provided a systematic approach to financing the industry and made it possible to formalize inter-budgetary relations, make them more transparent and stable. However, for example, in the area of public health, a clear separation of costs has largely broke a unified management and financing system for healthcare, which has been particularly badly affected by primary care. This problem should be addressed during the next stages of the budget reform and health care reform.

The calculation of the amount of intergovernmental transfers (equalization grants) from the state to local budgets is carried out taking into account the factor of population. The problem with this is that the distribution does not take into account the availability of budget institutions, age and gender composition of the population, the level of morbidity, etc. When approving the amount of financing for health at the local level, these factors are trying to take into account, but they are limited by the amount of financial resources.

In addition to the maintenance of institutions and health care facilities belonging to the respective territorial community, local budgets may provide intergovernmental targeted transfers for the financing of institutions belonging to other administrative-territorial units (such a right is provided under Article 101 of the Budget Code of Ukraine) [1] Mostly this right is used at the district level, when at the expense of the budgets of villages, settlements and cities of district significance, subventions are proposed to the rayon budget to improve the level of financing of the district hospital servicing the inhabitants of these territorial communities.

Historically, the existence of a balance of Ministries and Departments of the network of institutions and health care institutions that provide medical care to certain categories of citizens, determines that health care expenditures are made not only through the Ministry of Health of Ukraine, but also through other state institutions and establishments. The planned amount of expenditures for any branch of socio-cultural sphere, in particular health care, is set for the state budget expenditures in the law of Ukraine on the state budget, for local budget expenditures - in the decision of the respective local Council.

The social transfers and their share in GDP and total public expenditures have been rising almost continuously since the beginning of economic growth (in 2000). The share of social spending in the structure of the consolidated budget expenditures in 2012 was 25.4%, in 2013 – 8.7%, in 2014 – 29.0%, in 2015 – 26.3%, in 2016 – 29.8%, and in 2017 – 25.5% [2].

If the social security and welfare expenditures accounted for 19.0% of the state budget in 2012, in 2013 they were 21.9%, in 2014 – 19.8%, in 2015 – 17.9%, in 2016 – 22.2%, in 2017 – 17.2% [2]. In social protection expenditures, the great share is paid to pensioners – In 2012 – 16.3% of the state budget, in 2013 – 20.6%, in 2014 - 17.6%, in 2015 – 16, 4%, in 2016 – 20.8%, in 2017 – 15.9% [2].

It should also be noted that there was some chaotic and inconsistent increase of state social guarantees with modern economic realities in Ukraine. Ukraine belongs to countries with a powerful social security system, both in the list of legally approved state obligations in the social sphere and in the share of social expenditures in the state budget.

The system of state social assistance is financed mainly from subventions by local budgets. In 2012, 50.1 billion UAH was allocated to social protection and social security from local budgets, in 2013 – 56.5 billion UAH, in 2014 – 57.4 billion UAH, in 2015 – 72.6 billion UAH, in 2016 – 106.4 billion UAH, in 2017 – 107.2 billion UAH. [2]. The excessive government commitments in the area of social protection of the population distort the basic economic relations, but in conditions of economic growth they do not lead to a critical deficit of the budget.

In modern conditions of rising public debt, the significant impact of the economic crisis on the revenue side of the budget, and the ability to spend money on social support for the population, there can be no question of increasing the financing of the social assistance system. The pressure on the budget of ever-increasing debt

service costs reduces the social potential of the budget. At the same time, the growth of absolute poverty due to crisis phenomena predetermines the need to protect a more populous group of people. It is possible to resolve this contradiction only by increasing the efficiency of spending money on the social assistance system and improving its targeting.

In order to justify the amount of budget support of the social sphere, the norms of expenditures (financing) are introduced: indicators of current and capital expenditures from budgets of all levels for meeting needs at a level not lower than state social standards and norms [5]. Factors that affect the volume of subventions provided from the state to local budgets can be divided into several blocks: demographic, political and economic.

The problems of intergovernmental relations are rather outdated in Ukraine. Among them it may be the excessive centralization, limiting the financial and administrative capacity of local self-government bodies. Given the significant volumes of delegated powers and the regulation of certain items of expenditure at the central level (for example, the size of the minimum wage), as well as the very low level of own revenues of local budgets, their powers are not fully secured by financial resources. Although the problem of resource constraints is mostly solved by providing additional subsidies from the state budget, this only partially mitigates the shortage of short-term problems without affecting its principled solution.

At the present stage of the state building, the main constitutional rights of citizens in the social sphere, including state social standards and guarantees, are not fully realized in practice. This is primarily due to the limited financial capacity of the state, the imperfection of the mechanism of providing social guarantees, the ineffectiveness of the system of social support of the population and the imperfect budgeting system.

The filling and redistribution of the State Budget of Ukraine depend on the country's economic development. Therefore, the formation and implementation of social policy in the field of basic social guarantees directly depends on the size of the revenue and expenditure parts of the consolidated budget of Ukraine. In addition, the monitoring of this dependence, its quantitative assessment, the establishment of the directions of the relevant interactions and their intensity are very important scientific and practical meaning, since they directly affect the main macroeconomic processes in the state.

So, one of the most urgent questions regarding the provision of social guarantees in Ukraine remains developing of a methodology for their financial support. The system of state social standards and guarantees requires significant improvement, substantiation and coordination of all components in order to achieve rational correlations between them on micro, and then on a macro level. The main goal of the state is to raise the level and quality of life of the population.

In spite of the crisis in the economy, in the state budget for 2014-2017, socially significant commitments (social assistance, compensation, scholarships, pensions)

have been fully established in the state budget, but they are not indexed and not significantly increased, which affects the public the value of socially significant commitments. Thus, for example, the level of inflation in the period 2014-2017 was 360.0%, and the level of increase of pensions on October 1, 2017 amounted to 15.0% [3]. Accordingly, pensioners almost did not feel this increase.

The problem is also a significant rise in consumer prices. The government only intended to raise pensions, while consumer prices for essential goods and foodstuffs increased by 22.4%. In accordance with the Government's ruling, price policy is not controlled by the state. In conditions of imperfect market environment, crisis phenomena in the economy - it negatively affects the financial state of the population, which ultimately leads to an increase in the number of poor citizens.

The increase in living standards is influenced by the growth of real wages and real incomes of citizens. The minimum wage in 2017 has doubled and reached 3200 UAH. However, this level of minimum wages does not cover citizens' expenses, even for food and utility costs. The average wage is 5200 UAH.

As a result, the main benefits of the budget for citizens in the public finance management system in the context of long-term administrative and territorial reform are: establishing a dialogue between citizens and government representatives to transform the basic requirements of citizens into concrete and substantiated proposals; the impact on the direction of budget funds to the most in need of administrative territories and social groups; provision of activity of social groups in public discussions; focusing on the long-term goals and priorities of fiscal policy at the local level; support for the sustainable development of regions in terms of economic, social, cultural and environmental situation.

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NORMS OF INTERNATIONAL LAW FOR SUPPORTING THE ENERGY POLICY OF AGRIFOOD SPHERE ENTERPRISES

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Taking into account that the issue of energy efficiency is becoming more and more important, it is being addressed in the legislative area. As Ukraine is a subject of international law, international legal norms, commitments in terms of energy efficiency and generally accepted global development trends must be acted upon and fulfilled. Scientific approaches to energy efficiency management need further research, but with due regard to the requirements of current legislation and norms of international law. Similarly, domestic legislation in the field of energy efficiency should be based on scientific and methodological approaches. Consequently, management of energy efficiency and agrifood enterprises should be based on scientific, methodological and managerial approaches, taking into account the requirements of the current legislation of Ukraine, with due consideration of the best world experience and standardization in the field of energy efficiency.

With independence, Ukraine began to pursue the all-European policy for the efficient use of fuel and energy resources (FER), which was first and foremost reflected in the legislative and regulatory framework of the country.

The development of energy efficiency in Ukraine was significantly affected by the following factors:

1. Implementation of Ukraine's commitments to the countries of the European Union with the adoption of the Council Resolution on the improvement of energy conservation programs in the member- states (85/C 20/01) dated January 15, 1985. It provides recommendations to the member-states on the basic principles for the development of a national energy saving program.

The Council of the EU proposed the member-states to work on developing integrated energy conservation technique. This technique must have been based on the following principles:

– realistic pricing policy;

– compliance with energy conservation policies;

– rational use of energy resources through the development of standard measurement methods, identification of basic standards for equipment;

– program preparation according to sectors, sharing experience with the community, publication of research results;

– rational use of energy: information support and consulting; financial incentives; regulations and standards [4].

Since 2012, the principle of pricing characterized by a significant and constant

increase in the cost of FER has been actively implemented in Ukraine. The principle of pricing is the most rigorous and, at the same time, an effective way that forces heads of agrifood enterprises to implement energy-efficient policies at their own enterprises.

2. Active legislative activity in Ukraine, which began in 1994 when the Law of Ukraine «On Energy Saving» was adopted, which is still the main platform for development in the direction of energy efficiency. This law determines legal, economic, social and ecological bases of energy saving for all enterprises, associations and organizations situated on the territory of Ukraine, as well as for citizens [1].

3. Government financing of energy saving measures in the budget and communal spheres [2].

4. External financing of the projects aimed at increasing the level of energy efficiency in Ukraine.

5. Development of initiative groups among the public of Ukraine and specialized public organizations, attracting foreign capital to implement energy-efficient policy.

6. Ukraine's partnership with European Energy Cooperation.

Within the partnership, Ukraine has confirmed the intentions to work with Energy Cooperation by adopting the following directives:

1) Directive 2006/32/EU on energy efficiency of the end use of energy and energy services. The purpose of the Directive is to increase and improve the cost-effectiveness of the rational end use of energy in the member-states by means of:

– providing the necessary indicative targets, mechanisms, incentives, institutional, financial and legal systems to eliminate existing barriers in the market, as well as drawbacks that impede the rational end use of energy;

– creation of conditions for the development and promotion of the energy services market, as well as taking other measures to improve the rational use of energy by end users.

– Directive 2006/32/EU has played an important role in the further development of energy efficiency, since it establishes that member-states can create the fund or funds to subsidize the implementation of the programs on improving the rational use of energy and other measures, as well as on promoting the development of the measures market to improve the rational use of energy. Such measures consist in energy auditing, implementation of financial energy saving instruments and, if applicable, the improvement of measuring and informative billing.

Funds should also focus on the sectors of consumptive use with higher operating costs and risks. They can provide grants, loans, financial guarantees and/or other types of financing, which help to obtain results [4];

2) Directive 2010/31/EU on energy efficiency in buildings. It notes that the European Council emphasized the need to increase energy efficiency in the European Union in order to accomplish the aim of reducing its energy consumption by 20% by 2020 (March, 2007). It called for a rapid and comprehensive use of the priorities

set out in the Commission's Statement "Action Plan for Energy Efficiency: Potential Implementation" [6], which identified the significant potential owned by the sector of buildings for economically effective energy saving.

The importance of the Directive lies in the fact that it announced the creation or adaptation of new financial mechanisms and other measures of the European Union to promote measures connected with energy efficiency. It determined the financial mechanisms at the EU level that include, but not limited to, the following:

– Regulation No №1080/2006 of the European Parliament and of the Council (EU) on the European fund of regional development, which has been amended to allow for more investments in energy efficiency of buildings;

– public-private partnership within the framework of initiative "Energy efficient buildings" with the aim to promote ecological technologies and development of energy efficient systems and materials in new and reconstructed buildings;

– initiative of the European investment bank (EIB) of the EU "Initiative on financing of sustainable energy", which aims, in particular, to allow for investments in energy efficiency projects and "Marharyta Foundation" that is run by the European investment bank;

– the European Energy Fund, changes in climate and infrastructure;

– Council Directive 2009/47/EU of 5 May, 2009 amending Directive 2006/112/EU as regards reduced rates of value-added taxation;

– mechanism of Jeremie Structural Funds and Unity (Joint European Resources for Micro- and Medium-sized Enterprises);

– mechanism of energy efficiency financing;

– the Framework Program for Innovation and Concreteness, which includes the Intelligent Energy – Europe II Program focusing on overcoming trade barriers in energy efficiency and renewable energy through the ELENA technical assistance mechanism (the European Local Energy Assistance);

– the Covenant of Mayors, the Business Initiative and Innovation Program;

– TIC 2010 Political Support Program and the Seventh Framework Research Program. The European Bank for Reconstruction and Development also provides financing to promote energy efficiency measures.

It is noted that the EU financial instruments should be used to have a practical effect on the objectives of Directive 2010/31 / EU, but not replacing national measures. In particular, they should be used to provide appropriate and innovative funding to accelerate investment in energy efficiency measures. The mentioned instruments could play a significant role in the development of funds, instruments and mechanisms in the field of energy efficiency at the national, regional and local levels, which would enable to finance private owners, small and medium-sized enterprises and service enterprises in energy efficiency [7];

3) Directive 2010/30/EU on labelling of energy products. The labelling standards and providing consumers with full information on volume of energy consumption are determined in it. In terms of protection of enterprises, it is stressed

that the member-states, when implementing the given Directive, should refrain from adopting measures that could result in unnecessary bureaucratic obligations on the market of the mentioned participants, in particular small and medium-sized enterprises. Besides, evaluation of the impact of the adopted acts on environment, end-consumers and producers including small and medium-sized enterprises with regard to their competitiveness is provided for at all stages. At the same time, transitional periods are considered, taking into account possible consequences for small and medium-sized enterprises or for specific groups of products produced mainly by small and medium-sized enterprises [5].

- Development of the national action plan on energy efficiency for the period 2012–2020. The national action plan on energy efficiency provides for 9% reduction in consumption of energy resources compared to the previous period (as of the ninth year of application of the Directive). The plan clearly identifies the required amount of energy saving in physical terms [4].

– Opening of the Energy Saving Loan Centre in Ukraine in 2014. The introduced loan program offers low interest rates for energy saving loans [4].

As the directions of energy saving and energy efficiency are closely connected with social, economic and ecological spheres, in Ukraine, organizational and legal support of the development of energy efficiency is conducted by the following state institutions:

– State Agency on Energy Efficiency and Energy Saving of Ukraine (on State Energy Efficiency), which is responsible for the formation and implementation of the state policy in the field of energy efficiency, use of fuel and energy resources, energy saving, ensuring the increase of renewable energy sources and alternative fuels in the overall energy balance of Ukraine;

– the Ministry of Energy and Coal Industry of Ukraine – the main body in the system of central executive bodies that is responsible for the formation and implementation of the state policy in electrical energy, coal, nuclear-industrial, peat digging, oil and gas complexes;

– the National Commission that regulates the field of energy and public utilities (NCREPU);

– the Ministry of Economic Development and Trade of Ukraine (Mineconomdevelopment of Ukraine), the main task of which is to form, provide and control the implementation of the state policy in the following directions: energy saving, efficiency, economic and social development, industrial, investment, pricing, foreign economic policy, state regional policy, state policy on promotion of entrepreneurship, state policy in the field of trade, technical regulation and consumer protection. Besides, the integral function of the Mineconomdevelopment is interdepartmental coordination of cooperation with the European Union on issues of social and economic development of Ukraine;

– the Ministry of Ecology and Natural Resources of Ukraine (Minnature of Ukraine), which is responsible for an efficient and rational use of natural resources,

ecological safety of Ukraine, conservation of biodiversity. Within the authorities, it ensures satisfying the requirements of the United Nations Framework Convention on Climate Change and the Kyoto Protocol to it.

– the Ministry of Regional Development, Building, Housing and Communal Services of Ukraine is responsible for development and coordination of programs on increasing energy efficiency and energy saving in the housing and communal sector as well as approves the procedure for conducting an energy audit of the housing and social spheres;

– the Ministry of Agrarian Policy and Food of Ukraine, which takes measures aimed at modernizing the technical and technological re-equipment of the agrifood branches in order to increase the efficiency of the use of fuel and energy resources, the development of efficient agricultural machine building, energy saving, biofuel supply and production, etc. [3].

In figure 1 there is a schematic definition of energy policy. Structural energy management operates in the majority of foreign companies.

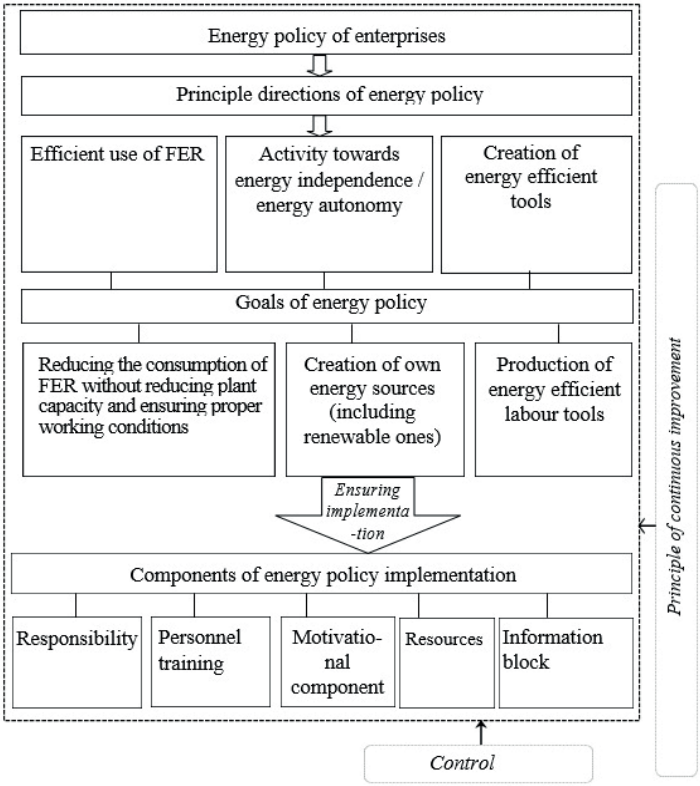

Fig. 1. Scheme of the energy policy of agrifood enterprises

The well-organized system of energy management enables to distinguish effective ways to increase the level of energy efficiency. Among the leading countries, the pioneer in the implementation and structuring of energy management is considered to be the United States, which in 2000 adopted the national standard – ANSI/MSE 2000:2008 A Management System for Energy (System of energy management) [6].

Denmark became the first European country to adopt the national standard for energy efficiency. On a joint initiative of the Confederation of Danish Industrialists, the Danish Federation of Small and Medium-Sized Enterprises, the Danish Energy Agency, a number of scientific institutions and several organizations, the first national standard was written:

– Denmark: DS 2403:2001 Energy Management – Specifications;

– Denmark: DS/INF 136:2001 Energy Management – Guidance on Energy Management.

Other countries followed Denmark's way afterwards.

– Sweden: SS 627750:2003 Energy Management Systems – Specification);

– Ireland: I.S. 393:2005 Energy Management Systems – Specification with Guidance for Use;

– South Korea: KS A 4000:2007 Energy Management System;

– China: GB/T 23331:2009 Management System for Energy – Requirements;

– RSA: SANS 879:2009 Energy Management – Specifications.

Adopted national standards immediately began to be justified and ensure positive growth rates at enterprises. However, each of these standards had a number of features associated with peculiarities of the country and specifics of the management process. Therefore, the specialized working group of the European Committee for Standardization (CEN) was created in 2006.

With its support, during the presidency of Sweden, which considered the standardization of the energy management system as an important step towards increasing energy efficiency in European industry, European standard EN 16001 was agreed in the short term.

Standard EN 16001: 2009 was approved on September 10, 2009 in Brussels. Companies that used principles of the given standard significantly increased the level of their own energy efficiency even before its official presentation (on a voluntary basis) and then achieved certification according to EN 16001:2009.

The success of principles of standardizing technological processes has increased the interest to energy management and development similar national standards in other countries. As a result, a lot of countries in the world have developed their own standards, and the process of standardizing energy management has come to a global level.

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FINANCING OF THE HIGHER EDUCATION AT THE PRESENT STAGE

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The decisive trend in the development of the global education system is the constant rapid growth of educational budgets over the past 15 years. The total volume of the world market for educational services in 2012 amounted to more than 4.4 trillion dollars (almost three times more than the total military budget of all countries of the world), while in 2002 - 2.5 trillion dollars. According to the forecasts of specialists, which presuppose the preservation and even increase of high current growth rates of the world educational market, in 2017 its volume will exceed 6.3 trillion dollars, while the largest volumes of financing growth will come to the higher education and public and corporate education during the lifetime [9].

The key feature of the development of society is the creation of a new model

of the economy - the knowledge economy, under this condition education becomes one of the key factors of economic growth and sustainable development of the state. According to experts from the World Bank, one of the four main conditions for the formation of the knowledge economy is education and training that characterizes the availability of an educated and professionally trained population capable of producing, distributing and using knowledge.

Consequently, the problems of the educational system are exacerbated by the impact of globalization and the intensification of economic, international, scientific and technical, educational and cultural relations; rapid development and intensive dissemination of computer technology and information technologies; the increasingly pronounced orientation of social production to man, to meet its rapidly changing needs, aspirations and interests; displacement of the problems of resource supply of business structures in the sphere of awareness and recognition of the decisive role of the human factor in ensuring the proper efficiency of production and management [4, p. 13].

Universities are the main generators, drives and distributors of knowledge, information, experience and cultural wealth and today they become the key public institution in modern conditions. Evidence of their significant role in the modern social progress is, in particular, confirmed by western scholars of the existence of close interconnectivity between the development of universities and the economic growth of countries. It is no coincidence that those countries that recognized the priority of the development of university education were able to move on to the development of an innovative economy, which for a long time provided them with high competitive positions in world markets.

But all the components of the transformation of higher education in Ukraine face a range of problems, as concrete as economic ones, and general civilizations. First of all, it is the growing internationalization of educational activities. The emergence of international forms of organization and financing of education, increasing the need to address the problems of standardization of education, determine the need to ensure and improve the quality of educational services in the face of growing openness of the economies of countries, the increasingly free movement of people, capital and goods between countries. Consequently, global competition intensifies, which is why the national educational system of any country should be oriented not only to train qualified personnel for the development of its economy, but to train personnel who, along with this important goal, will also ensure the competitiveness of its economy in today's global environments.

The second problem is due to the fact that the decisive role of education in social development and the formation of the knowledge economy requires a powerful diversified mechanism for its functioning and financial support. In Ukraine, during the transformation period, there are diversification processes: and in relation to sources of funding (along with public resources, private, corporate funds, external resources are involved) and in relation to the forms of organization of educational

activities, content and technologies of the educational process. At the same time, the experience of the advanced countries of the world proves that economic mechanisms can be more effective, effective, aimed at concrete results.

In order to solve the problems that today is facing the system of higher education of Ukraine in particular, a substantial increase in the financing of education will be required. This will ensure the dynamic development of the educational sector, stimulate the processes of commercialization of knowledge, promote the growth of market positions of state universities, increase their competitiveness, because only with the availability of reliable and stable sources of funding, education will fulfill its mission of developing the human potential of the country.

The structure of funding sources on higher education varies widely among countries and was not unambiguous in its historical development. In the last decade of the 20th century, the tendency of diversification of funding sources on education became widespread in all countries. Thus, the main funding sources for higher education in Ukraine are the state budget funds, tuition fees for individuals and legal entities, grants from private, national, and regional funds of entrepreneurial structures in the field of innovation (Table 1).

Table 1

Gross Domestic Product and Consolidated Budget Expenditures on education in 2007-2018 [11]

Indexes	2007	2009	2010*	2012*	2014*	2018*
GDP by production method, mln UAH	720731	913345	1079346	1404669	1586915	1979458
incl. education, mln UAH	33194	49239	53462	71771	76068	83285
- share on education in GDP,%	4.61	5.39	4.95	5.11	4.79	4.21
Total expenditures in the consolidated budget, mln UAH	226054.4	307399.4	377842.8	492454.7	523004.8	433159.8
incl. on education, mln UAH,	44333.6	66773.6	79826.0	101560.9	100105.6	75907.0
incl. for higher education, mln UAH	12827.8	20966.3	24998.4	29335.9	28340.5	21059.8
share of expenditures in the consolidated budget: - on education,%	19.61	21.72	21.13	20.62	19.14	17.52
- on higher education,%	5.67	6.82	6.62	5.96	5.42	4.86

* - excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the zone of anti-terrorist operation (calculated by the authors).

The structure of the funding sources can be divided into the state budget (up to 60%), local and sectoral budgets (2%) and funds of individuals and legal entities (up to 40%). Speaking about the ratio of the proportion for universities of different ownership forms in Ukraine, it should be noted that initially there was an increase in the proportion of higher educational institutions with private ownership - up to 22.25% (maximum) at the beginning of the 2009/2010 school year. This indicator is slowly decreasing. As of 2017/18, the share of state and municipal higher education institutions is 79.67%, private - 20.33%.

The analysis of the tendencies of financing higher education in the EU makes it possible to state that the EU countries use different financing strategies for higher education, but do not have a universal mechanism for this. The funding of higher education institutions depends on both the quantitative (number of students) and the qualitative (number of credits, diplomas issued) indicators. There is a tendency to allocate public funds to higher educational institutions based on learning outcomes, as well as the tendency to combine different funding instruments.

Today, a significant amount of funding on the higher education system is based on market mechanisms: state resources are directed for the support of students rather than transferred directly to universities, as it is happening now in almost all countries of the world. In modern conditions, more and more countries are introducing a new type of financing for higher education - student loans. Recently, a rapid increase in the number of students became an overwhelming burden for the budgets of those countries where higher education in public universities was traditionally free or cheap. More and more countries begin to decrease budget funding. Providing educational credits, along with studying at their own expense, should prevent the transformation of higher education into the exclusive privilege of the rich sector in society. However, world experience suggests that such a way does not always give the desired results [2, c.132].

Although no country fully applies this type of financing, different tools may be used in the implementation of this approach:

• scholarships and grants. Most countries and universities offer financial assistance that does not need to be reimbursed, based on needs or scholarships for educational achievements;

• student loans. Student credits (loans) exist in different forms more than in 60 countries. A large number of HEIs arranges and finances student loans;

• Human capital contracts are offered by private firms and differ from student loans. The Student Participant agrees to repay a part of his/her income to investors who have a share of the student equity capital after graduation. Human capital contracts exist on a pilot basis in Chile, Colombia, Germany and the United States;

• vouchers. Among the six countries in the world, Bulgaria and Hungary have introduced the form of vouchers in higher education. Students receive the right to study at universities of their choice;

• Education savings accounts. Savings accounts on education (sometimes called

«Individual Learning Accounts»), aimed at encouraging families or individuals to save on higher education. The state (in Belgium (Flanders), the Netherlands, Spain, Sweden, Scotland and Wales) encourages families to put money on their children's savings accounts, offering either tax benefits or donations, such accounts are used for professional training purposes, employees and employers are encouraged to open accounts and use money for their further education [4].

Along with the above-mentioned tools (state financing of higher education institutions and elements of market allocation of funds individually for the benefit of students), a new system of financing higher education is being developed, which is reflected in the introduction of a multi-stage and multimodal system for attracting finance, including through the provision of additional educational services in higher education institutions.

Higher education leads to an increase in labor productivity, which should manifest itself in the growth of individual employee income. The higher is the level of education of all employed, the higher is the potential for growth in labor productivity in the national economy and the greater is the aggregate income of society. However, in a modern information society, one cannot learn once and for all life. Therefore, the most important skill for a modern person is the learning agility - the ability to learn, to forget unnecessary, to acquire difficult-related new knowledge quickly and to embed in the structure of personal experience. At the state level, the mass distribution of education is seen as a guarantee of its international competitiveness in the new global economy.

Over the last decade, the business environment changed considerably. As a result, the requirements for skills and abilities of employees, their education and professional experience change. There are professions that were unknown at all ten years ago, and in a few years, the labor market would again dictate its new demands, create new roles and seek for experienced professionals.

Therefore, state policy in the field of higher education development should be aimed at achieving its current world level, which is reflected in the introduction of a multi-stage and multidimensional system of higher education, the provision of additional educational services by higher educational institutions, in particular, within the framework of implementing the concept of life-long education; state funding is not the main form of providing retraining for employees or training in the training program for labor force throughout the working life.

Employers are the source of funds for the implementation and dissemination of lifelong education and continuing training of the workforce. Thus, the world's leading universities are private, they create trust funds - endowments, which accumulate donations from sponsors and patrons, invest profitable and use profits according to their academic needs. In the fierce struggle for sponsorship, Western universities defend their reputation, improve educational programs, and build profitable partnerships with businesses. the prevalence of an entrant abroad fully justifies itself: universities decide on themselves what specialties are demand and

purposefully use sponsorship money. As a rule, the main part of contributions from endowment funds is one-time donations from individuals or corporations: a philanthropist can create a separate fund for financing a particular direction, program or scholarship. For this, the leadership of the university provides the patron with honorary status or post in universities after retirement.

There are also annual «fundraising campaigns» when each university is competing for its sponsor - this is where the image, reputation and business relationships of an educational institution play an important role. In addition to the direct contributions of individuals, a significant part of the proceeds of the entangements is made up of funds transferred under the will, with the share of these assets in private universities reaches 50%. Unlike private universities, state universities have endowments, although they accumulate significant amounts, but are not the main source of income.

Thus, the country needs to create the necessary socio-economic conditions for more efficient use of budget funds. It is unlikely that the budget funds will cover all the prospective directions of development of the system of higher education. The state must fulfill all the conditions for legislative improvement and facilitate the implementation of the use of alternative sources of funding for these areas, on which the future economic development depends. The developed countries of Europe currently offer many educational programs that promote the development of not only all parts of national education and training systems, but also the development of national business structures. Therefore, the special significance in our time, the significant need for additional funds for the improvement of the educational system is cooperation with enterprises - potential employers and international funds, foreign higher educational institutions.

The most striking example of business collaboration and universities is the collaboration between Siemens and Lincoln University (UK) and Transylvanian University (Romania). For more productive and effective interaction, the corporation has located its headquarters directly on the basis of university campuses, which allows them to adapt students to the real needs of production, to involve the company's experts in teaching, to hold contests, to select scholars, to provide advisory services, to join the joint work with academy in R & D. At the initiative of Siemens, the Master of Science at Lincoln University has been complemented by a new program on renewable energy sources (MSc Energy Renewables and Power), and the University of 2015, as a result of the collaboration, has been recognized as a Global Lead Partner. Such cooperation greatly improves the quality of educational services, ensures the competitiveness of universities, promotes the mobility of students and teachers in the educational space, which already provides the country's economy with new high-quality specialists with knowledge and training at the world level.

Consequently, the tasks of transforming the system of higher education in the modern conditions are as follows: the training of specialists taking into account

the requirements of employers and the needs of the labor market and economy; realization of measures aimed at introduction of programs of retraining specialists, in particular directly at enterprises (by means of intensifying cooperation between higher educational institutions and employers); with the assistance of the state and with the help of various funds, the expansion of the network of retraining centers at universities.

Therefore, it is advisable to involve employers more actively in the scientific and educational process, which will allow to optimize the system of preparation of specialists in higher education in demand in the national economy and to bring education programs closer to the needs of the real economy sector, to take into account the European experience of planning the training of higher educational institutions of the diploma specialists for the economy as a whole, developed in the developed countries, innovative research universities, to ensure the priorities of educational policy in international science technical cooperation, as well as provide a new impetus for the active participation of entrepreneurship in the development of higher education.

Government regulation measures should focus on creating a multi-channel financing system based on the expansion of the list of extrabudgetary sources, including the attraction of charity funds, which could be a promising direction for financing higher education institutions and a significant increase in investment for the provision of the scientific and educational process. Considering that the structure of investment in the field of higher education of Ukraine can be considered ineffective, at the national level it is proposed to develop measures to stimulate business structures to increase investment in the process of training specialists for specific industries and conducting research work, by optimizing the structure of costs of business -structures and acceleration of cash flow.

Globalization has become an effective factor in the development of civilization, economics and education. In a globalized environment, innovation and the development of the competitiveness of the economy can only be sustained if there is a high quality education system and a high quality of human capital. The overcoming of artificial obstacles and the destruction of autarkic systems in the information society is just a matter of time. Higher education can no longer be limited to the training of specialists for a local or national labor market. In fact, for the students, the whole world is open, and therefore the need to ensure their competitiveness is becoming a strategic task for all universities.

The current state of national higher education allows us to recognize the fact that the existing system of financing higher education institutions does not ensure its development. The effectiveness of the system of higher education is closely linked with the harmonization of relations between all its stakeholders, which in turn can ensure its effective financing. Reorienting on a high-tech path for further progress, the state should focus exclusively on human capital, rather than on natural, infrastructural or industrial resources, to include competitive science and advanced

education among the main engines of its economy.

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