

THE ROLE OF RESOURCE POTENTIAL IN THE FORMATION OF COMPETITIVE STRATEGIES OF UKRAINIAN AGRICULTURAL ENTERPRISES

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Abstract. The tasks of formation of competitive strategies of agrarian enterprises and increase of their competitiveness are the main factors of development in market conditions. The activity of agricultural enterprises is connected with competition and the need to form competitive advantages, the nature of which depends on the resource potential of economic entities. One of the most important problems of development of domestic enterprises of agrarian sector is the low level of efficiency of using their resource potential. That is why the *aim* of the article is to analyze and evaluate the effectiveness of resource potential of agricultural enterprises for determining the scope of their further competitive struggle and the formation of competitive strategies. *Methodology.* Theoretical and methodological basis of the study consisted of the works of domestic and foreign scientists on the use of resource potential of agrarian enterprises. The complexity and focus of the study ensured the use of a systematic approach as a methodological basis. The following methods were used in the study: statistical method (in determining the production of gross agricultural output), correlation and regression analysis (to identify the relationship between gross output of agricultural enterprises and the use of various types of their resources); abstract-logical method (in formulating conclusions). As a *result* of the study the components of the resource potential of agrarian enterprises were determined, its characteristics were given and the dynamics during 2016–2020 were analyzed. The factors on which the efficiency of the use of resource potential by enterprises of the agrarian sector and the main reasons for the loss of resources in agricultural production were determined. The most influential components of the resource potential of agricultural enterprises and their combinations were identified through the development of correlation and regression model. The main approaches to choosing a competitive strategy of agrarian companies based on the evaluation of their resources were determined. The algorithm of formation of competitive strategies of enterprises in the agricultural sector, taking into account the resource potential, and identified its main stages. *Practical relevance.* The implementation of the results of the study will ensure the formation of effective competitive strategies of enterprises in the agricultural sector to improve their competitiveness. *Scientific novelty.* The analysis and evaluation of the resource potential of agrarian enterprises is proposed to carry out with the help of correlation and regression analysis, which allows to determine the degree of dependence of production on the use of different types of resources and their combinations and the possibility of forming competitive strategies of agrarian enterprises, taking into account the impact of these resources.

Key words: resource potential, competitive advantages, competitive strategy, correlation and regression analysis, agricultural enterprises.

JEL Classification: O13, Q10

1. Introduction

The tasks of forming effective competitive strategies of agricultural enterprises and improving the organizational and economic mechanism to enhance their competitiveness are the main factors of development in a market environment. The success

of the functioning of agricultural enterprises is determined primarily by the degree of resources, their structure and efficiency of use, i.e., resource potential. Resource potential can be represented through the ratio of its components, which contributes to the implementation of the strategic objectives of enter-

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prises and combines economic, social and environmental factors of development.

Today the activity of enterprises in the agricultural sector is characterized by quantitative, qualitative and structural imperfection of resource potentials, which resulted in significant losses of resources during the agrarian and land reforms, and their difficult financial condition. The search for ways to rationally use the available resources is of particular importance, since the solution of this problem will ensure the maximum utilization of production capacities, the stability of the competitive position of commodity producers, and will also help to reduce production costs and improve the quality of products. Therefore, the purpose of this study is to analyze and evaluate the effectiveness of the use of resource potential of enterprises of the agricultural sector to determine the direction of further competition and the formation of competitive strategies.

2. Characteristics of the resource potential of agricultural enterprises

Activity of enterprises in market conditions is associated with competition and the need to form competitive advantages, the nature of which depends on the resource potential of business entities. Enterprises, attracting more unique resources to the process of creating products, have a higher chance to get ahead of rivals in attracting consumers and the formation of competitive advantages. This leads to the desire of economic entities to develop their own resource potential in those types that can provide a sustainable competitive advantage in the long term (Izhevskiy, Stadnyk, 2017).

The study of the resource potential of the enterprise is an urgent and difficult task, by solving which it is

possible to assess the possibility of production of certain types of agricultural products, to measure and identify the reserves of production efficiency, to provide an objective assessment of the activities of business entities. Therefore, in order to ensure competitive advantages of the enterprise it is necessary to assess the actual state of its resource potential and then determine the ways of its effective use and increase. For the production of agricultural products at the enterprise material-technical, financial, energy, labor, administrative, organizational and managerial, intangible, information, intellectual, entrepreneurial, marketing and time resources are involved. The main characteristics of the resource potential of companies in the agricultural sector are presented in Table 1.

Land resources are important in the formation of competitive strategies of agricultural enterprises, because land is the main means of production, due to which agricultural products and raw materials for production and non-productive consumption are produced. The size of agricultural land used by entities of the agricultural sector has a direct impact on the performance of their activities and on the ability to sell their own products on the market. For the period under study there was an increase in the area of agricultural land in agrarian companies by 2.2%. Along with the provision of land resources of agrarian companies, their labor resources are of fundamental importance. During 2016–2020, there was a 13.5% decrease in the number of workers employed in agrarian enterprises, which was due to a 0.4% decrease in the number of enterprises and job cuts.

The competitiveness of enterprises is influenced by the growth of labor productivity, which leads to a relative decrease in the cost of production, as well

Table 1
Resource potential of agricultural enterprises in Ukraine

Indicators	Year					Deviations of 2020 to 2016, %
	2016	2017	2018	2019	2020	
Number of agricultural enterprises, total	47697	45558	49208	48504	47523	99,6
Land resources						
Agricultural land area, thousand hectares	19821,2	19960,2	20005,2	20113,6	20252,4	102,2
Labor resources						
Number of employees, thousand people	513,2	489,2	479,8	472,1	443,7	86,5
Average monthly nominal wage, UAH.	3916	5761	7166	8738	9734	248,6
Labor productivity, thousand UAH.	766,1	755,4	867,7	928,6	857,2	111,9
including crop production	807,3	777,4	900,1	954,4	853,7	105,7
in animal husbandry	616,1	664,8	730,4	815,2	872,8	141,7
Material and technical resources						
Production cost of production, million UAH.	288499,3	404970,2	442993,4	463271,6	441529,6	153,0
including direct material costs	207870,2	242313,7	247997,2	266918,0	245959,8	118,3
direct labor costs	15638,4	20326,7	25234,4	29729,6	29932,5	191,4
depreciation of property, plant and equipment	14153,5	19176,6	25752,9	32292,9	35969,9	254,1
general production costs	50240,0	63067,7	74745,0	67774,1	62083,4	123,6

Source: calculated by the authors on the basis of (State Statistics Service of Ukraine)

as provides an opportunity to increase the average wage. In 2016–2020 labor productivity in agricultural enterprises increased by 11.9%. At the same time, the average monthly nominal wage per full-time employee in 2020 increased by 2.5 times compared to 2016, but remained one of the lowest among all types of economic activity in the country and amounted to 9734 UAH.

Consequently, the efficiency of the use of resource potential by enterprises of the agricultural sector depends on a number of factors, including the rational ratio of components in the structure of resource potential, production management, the implementation of resource-saving technologies, the impact of climatic conditions, the level of resource availability of enterprises. At the same time, the main causes of resource losses in agricultural production are: irrational use of material resources in technology; non-compliance with science-based systems of machinery and mechanisms of agricultural production; unbalanced use of biological potential of plants; reduced efficiency of agricultural land potential, because machinery and equipment do not meet modern requirements, have insufficient reliability and low productivity (Vinichenko, Soroka, 2015).

3. Evaluating the efficiency of resource potential use

Scientists present different approaches to the assessment of the resource potential of enterprises, and each of them is implemented with the use of specific techniques, depending on the object of evaluation. One of the approaches to the assessment of resource potential is when the dependence of gross output of agricultural enterprises on the use of their own resources is determined. Therefore, it is necessary to

analyze certain resources (their volume, structure, quality), to investigate their potential and the possibility of their use in the process of reproduction. The next step is the study of combinations of available resources and the choice of the most successful option that corresponds to the strategic orientation of the enterprise, to assess the effectiveness of the chosen combination. After that it is necessary to identify the factors that have a negative impact on increasing the efficiency of production, to determine ways to compensate for the lack of certain types of resources, to calculate the performance of production under new resource proportions. The last step is the study of ways to transform the structure of production, using attracted funds.

It is advisable to assess the resource potential of agrarian enterprises by using a correlation and regression model. To conduct the process of modeling the functional dependence between the value of gross output and available resources of enterprises, take as the basis of the study approach, according to which production is formed under the influence of a combination of the following resources: x_1 – agricultural land area, thousand hectares; x_2 – the number of employees in enterprises, thousand people; x_3 – the volume of the average monthly nominal wage of employees, UAH; x_4 – labor productivity (per 1 employed in agricultural production), thousand UAH; x_5 – production cost of production, million UAH (Table 2).

As a result of regression analysis, the indicators that most affect the production of agricultural products (x_1 , x_3 and x_4) were identified, confirming the following results:

1. The coefficient of multiple determination $R^2 = 0,97339$, i.e., the variation of production by 97,34% depends on changes in the studied resources.

Table 2

Input data for modeling the dependence of changes in production of agricultural enterprises in Ukraine on the use of their own resources

Year	Y	x_1	x_2	x_3	x_4	x_5
	The cost of gross output, millions UAH	Area of agricultural land, thousand hectares	Number of employees, thousand people	Average monthly nominal wage, UAH	Labor productivity, thousand UAH	Production cost of production, million UAH
2010	256806,00	21058,70	590,20	1430,00	380,40	75009,55
2011	329373,40	21107,40	582,11	1801,00	472,11	99265,87
2012	309819,80	21232,50	558,57	2023,00	457,95	123739,29
2013	373437,80	21631,90	552,19	2269,00	582,97	127190,31
2014	387744,10	21009,60	503,39	2476,00	635,44	154313,46
2015	367738,80	19922,70	491,40	3140,00	624,00	228519,60
2016	403244,70	19821,20	513,20	3916,00	766,10	288499,30
2017	391015,80	19960,20	489,20	5761,00	755,40	404970,20
2018	437998,60	20005,20	479,80	7166,00	867,70	442993,40
2019	449806,30	20113,60	472,10	8738,00	928,60	463271,60
2020	395717,70	20252,40	443,70	9734,00	857,20	441529,60

Source: (State Statistics Service of Ukraine)

2. F-test: $F_{actual} = 85,36667$, $F_{test} = 4,35$; $F_{actual} > F_{test}$, therefore, the null hypothesis of no relation between the indicators is excluded, because the model is adequate to reality;

3. Checking of regression coefficients for reliability with Student's t-test has established that the use of land (x_1), and labor (x_3 , x_4) resources influences the production of agricultural enterprises, t-statistics for parameters of this equation are: $tb_1 = 2,25731$; $tb_3 = -4,473788$; $tb_4 = 10,20285$ (calculated values of Student's t-test are greater than tabulated value $t_{test} = 2,2281$).

4. Regression analysis showed a high relationship between the function (Y) and the variables (x): $R = 0,986607$. The values of Fisher's and Student's distribution tables with probability $P = 0,95$ were used in calculations of possible bounds.

By correlation analysis, having analyzed the obtained indicators according to the Chaddock scale, determine that the correlation coefficient characterizes a noticeable (0.5 – 0.7) and strong (0.7 – 0.9) connection between all the factors (Table 3).

Table 3

Correlation matrix for modeling the dependence of changes in production of agricultural enterprises in Ukraine on the use of their own resources

	Y	x_1	x_3	x_4
Y	1			
x_1	-0,61189	1		
x_3	0,738272	-0,64081	1	
x_4	0,9401	-0,73481	0,905151	1

Source: authors' calculations

Construct a model of the dependence of production of agrarian enterprises on the use of available resources. As a result, the equation is obtained:

$$Y = -279459,03 + 17,70x_1 - 12,32x_3 + 514,62x_4 \quad (1)$$

The value of the regression equation coefficients indicates the change in the function Y when changing one x_i provided that all other independent variables remain constant. Thus, based on the analysis, the production of agricultural enterprises in Ukraine is most affected by labor productivity and the area of agricultural land.

4. Approaches to competitive strategy selection

In a changing environment to ensure the sustainable functioning of agricultural enterprises is possible only on the basis of the formation and implementation of an effective competitive strategy, which is a set of managerial decisions represented by the program of formation of the resource potential of enterprises, through which their growth and qualitative development of key competitive advantages is provided (Figure 1).

With the help of the strategy the enterprise can control the efforts and organizational resources in the key areas that can bring economic and financial success. Formation and implementation of competitive strategy is carried out in accordance with the direction of organizational development and available resource potential. There are two approaches in selecting a competitive strategy of the company based on the evaluation of its resources. The first approach is based on potential sources of competitive advantage of the enterprise. The position of the enterprise in the market based on resources and own

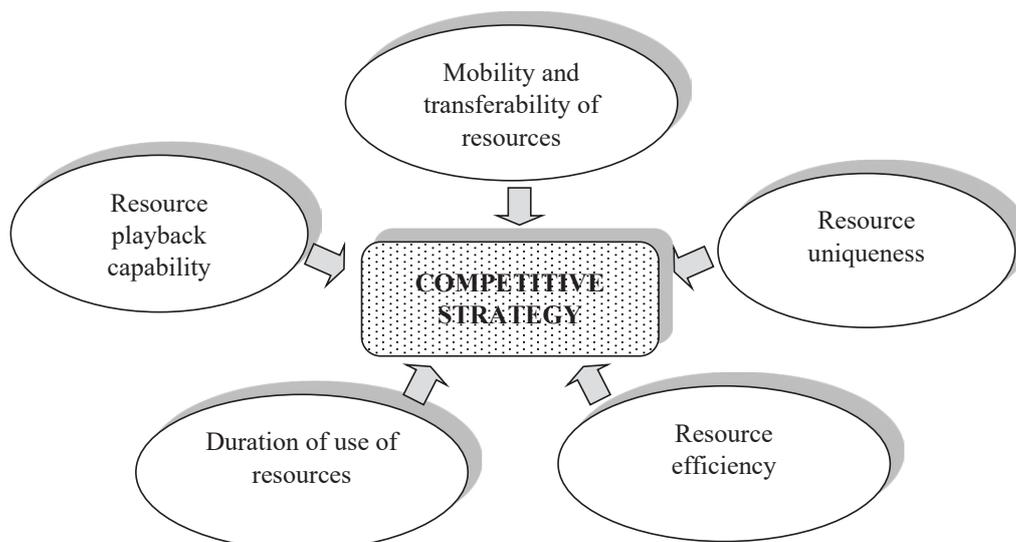


Figure 1. The influence of resources on the formation of the competitive strategy of agricultural enterprises

Source: authors' development

capabilities is based on four categories, characterizing resources and their use as potential sources of competitive advantage:

1. Material resources that are of purchase value: buildings, equipment, land, inventories. The market value of an enterprise's resources determines the possibility of its competitiveness and the possibility of its further development.

2. Intangible assets. Factors that do not lend themselves to financial evaluation, but when analyzing the work of the enterprise their impact on its image and the attitude of the population and business partners (goods, prices, quality of goods, image among customers, competitors, suppliers) (Latysheva, 2018).

3. Organizational capabilities. The processes and actions that ensure the transformation of tangible

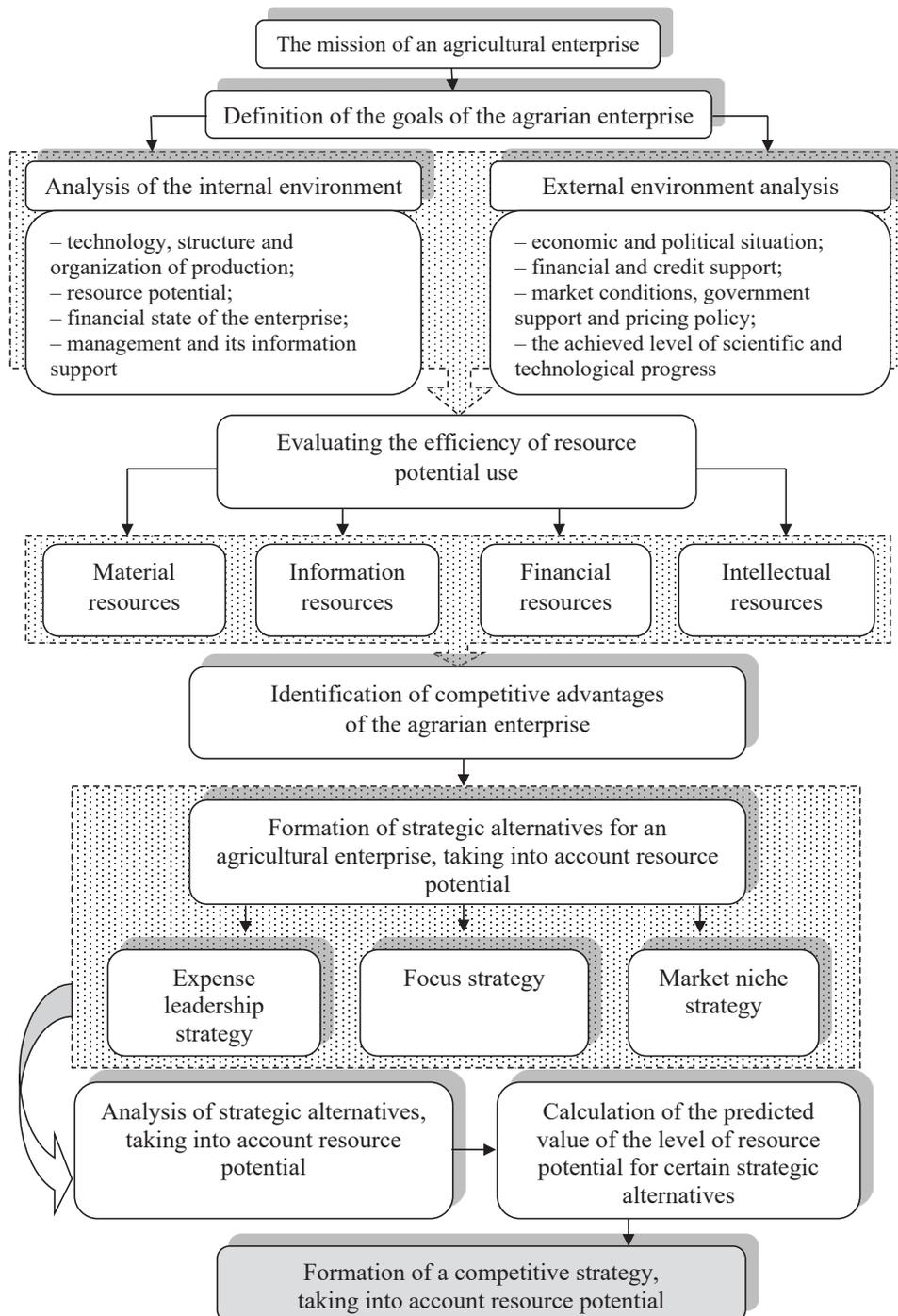


Figure 2. Formation of the competitive strategy of the agrarian enterprise, taking into account resource potential

Source: authors' development

and intangible assets into goods and services. This question refers to the management of resources and how they are used to achieve the goal of the enterprise, what is the return on the use of resources (Izhevskiy, Stadnyk, 2017).

4. The main competencies, which include individual qualities, skills, talents of managers, collective responsibility, training, retraining and professional development of employees. The emergence of competitive advantage is influenced by a large number of factors and resources. This involves the interaction of all types of resources and their coordination. Having the necessary resources, the company does not always use them rationally because of the low competence of managers (Latysheva, 2018).

The second approach is the interdependence of resources and their strategic concept. It is necessary to consider the relationship between economic resources (income, material assets) and the strategic concept of competitive advantage of the enterprise. Consideration is given to strategies and their correspondence to resources, internal reserves, possibilities of development of resources.

Although the two approaches do not contradict each other and are used in practice, but in developing a competitive strategy of the organization needs a more detailed delineation of individual types of resources to assess their strengths and weaknesses in the competition.

5. Forming a competitive strategy

The formation of competitive strategy of agricultural enterprises in market conditions is a complex and multifaceted algorithm. It is a necessary condition for the achievement of sustainable functioning of the enterprise in the market and involves the following stages (Figure 2):

- assessment and analysis of the external environment, which means determining the area of the economy, where the resources of the enterprise can be used;
- classification of resources of the enterprise, which helps to determine its strengths and weaknesses;
- an assessment of the potential of resources that can provide a significant competitive advantage;
- determination of strategic alternatives for enterprises of the agricultural sector, taking into account the resource potential;
- calculation of the predicted value of resource potential for certain strategic alternatives;

– the formation of a competitive strategy implies the development of such a strategy, which can most effectively use the resources of the enterprise in accordance with internal and external opportunities;

– implementation of a competitive strategy represented by a system of balanced indicators, policies, programs, projects and techniques.

6. Conclusions

The success of formation and implementation of competitive strategies of agricultural enterprises depends on their resource potential and ability to use it effectively in their economic activities. Limited resources and reduction of real value create obstacles for the competitive development of any enterprise in the future. As a result of the study to ensure the competitive advantages of enterprises, the assessment of the actual state of their resource potential through the development of a correlation and regression model was carried out. This allowed to identify the more influential components of the resource potential of companies in the agricultural sector and their compositions. Based on this analysis, labor and land resources have the greatest influence on the production of agricultural enterprises.

Taking into account conditions, in which agrarian enterprises function and available resources, there was suggested the algorithm of formation of competitive strategy, which determines the ways of further development of agrarian commodity producers, enables the most effective realization of their resource potential and planning of more intensive use in enterprises, increasing the efficiency of their production. Consequently, carrying out economic activities, the main priority of the leadership of the agricultural sector should be the effective use and enhancement of resource potential, consisting in the introduction of new economic structures, improvement of material and technical base, the introduction of energy and resource-saving technologies, increasing the level of concentration, specialization and cooperation of production, the level of organization and motivation of labor and the improvement of pricing and financial mechanisms, which as a result will ensure the formation of effective competitive strategies of enterprises of the agricultural sector and increase their competitiveness.

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