
Methodology For Assessing The Production Potential Of Grain Processing Enterprises.

Jalilov Bahrom Sotiboldievich

Namangan Institute of Engineering and Technology is a senior lecturer

E-mail: jalilovbs75@mail.ru

Article History: Received: 10 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021; Published online: 10 May 2021

Annotation. In the current economic environment, the assessment of the production potential of enterprises in the field of grain processing plays a crucial role not only in the viability of enterprises in the market, but also in the efficient operation and competitiveness of the entire industry. The article shows that the assessment of the production potential of enterprises in the field of grain processing is one of the most important ideas in terms of effective development of the industry. The proposed assessment methodology was tested on the example of grain processing enterprises in Namangan region.

Keywords: evaluation methodology; production potential; processing enterprises; efficiency of use; indicators; integral indicator; production capacity; development strategy.

Introduction

Today, the issues of improving the socio-economic policy and effective and rational use of the economic potential of industrial enterprises in production are becoming increasingly important in our country. At the same time, along with increasing the economic potential of enterprises, special attention is paid to the deep processing of agricultural raw materials and mineral raw materials for the production of finished products, the rapid development of modern high-tech industries.

It is well known that at present, managers face challenges in global changes in the innovative development of enterprises, including social, technological and economic structural changes. This, in turn, requires an in-depth study of many unexplored management strategies in the development of the enterprise and the processes leading to development on a global scale. In response to global change, economists, leading experts and practicing managers are developing innovative strategies for enterprise development that can influence such structural changes.

President Sh.M. The Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021, developed under the leadership of Mirziyoyev, summarizes the achievements of our country over the past years, historical experiences, and the new challenges of historical development for the next five years and beyond. reveals their horizons. In essence, the "Strategy of Action" provides for the rise of Uzbekistan to a new stage of development. To do this, first of all, it is necessary to have a deep understanding of the meaning and content of the Action Strategy, its practical and urgent tasks in each direction. It is known that there are different directions and strategic models of enterprise development. In our country, the activity has chosen an intensive path of development, built on discoveries, inventions, high technologies, innovative ideas, with high scientific efficiency. Therefore, a thorough study of various models and strategies for the development of grain processing enterprises is, in our opinion, one of the most pressing issues.

In the current economic environment, the production potential of enterprises in the field of grain processing plays a crucial role not only in the viability of enterprises, but also in the efficient operation and competitiveness of the entire industry. In this regard, the assessment of the existing production capacity of grain processing enterprises should help enterprises to develop strategic development maps, identify methods and mechanisms for managing the production capacity of enterprises, but to ensure the rational use of available resources to increase financial and economic efficiency. need

Analysis and results

The analysis of the economic potential of enterprises requires not only an analysis of the material assets of the enterprise located in the active part of the balance sheet, but also a comprehensive and detailed analysis of its economic situation, including its assets and labor

resources.¹

The developed methodology for a comprehensive assessment of the production capacity of grain processing enterprises is based on the correlation between the values of the constituent elements that make up the production capacity and the performance of production targets.

The description of the methodology developed to assess the production potential of grain processing enterprises includes the following algorithm. (Figure 1)

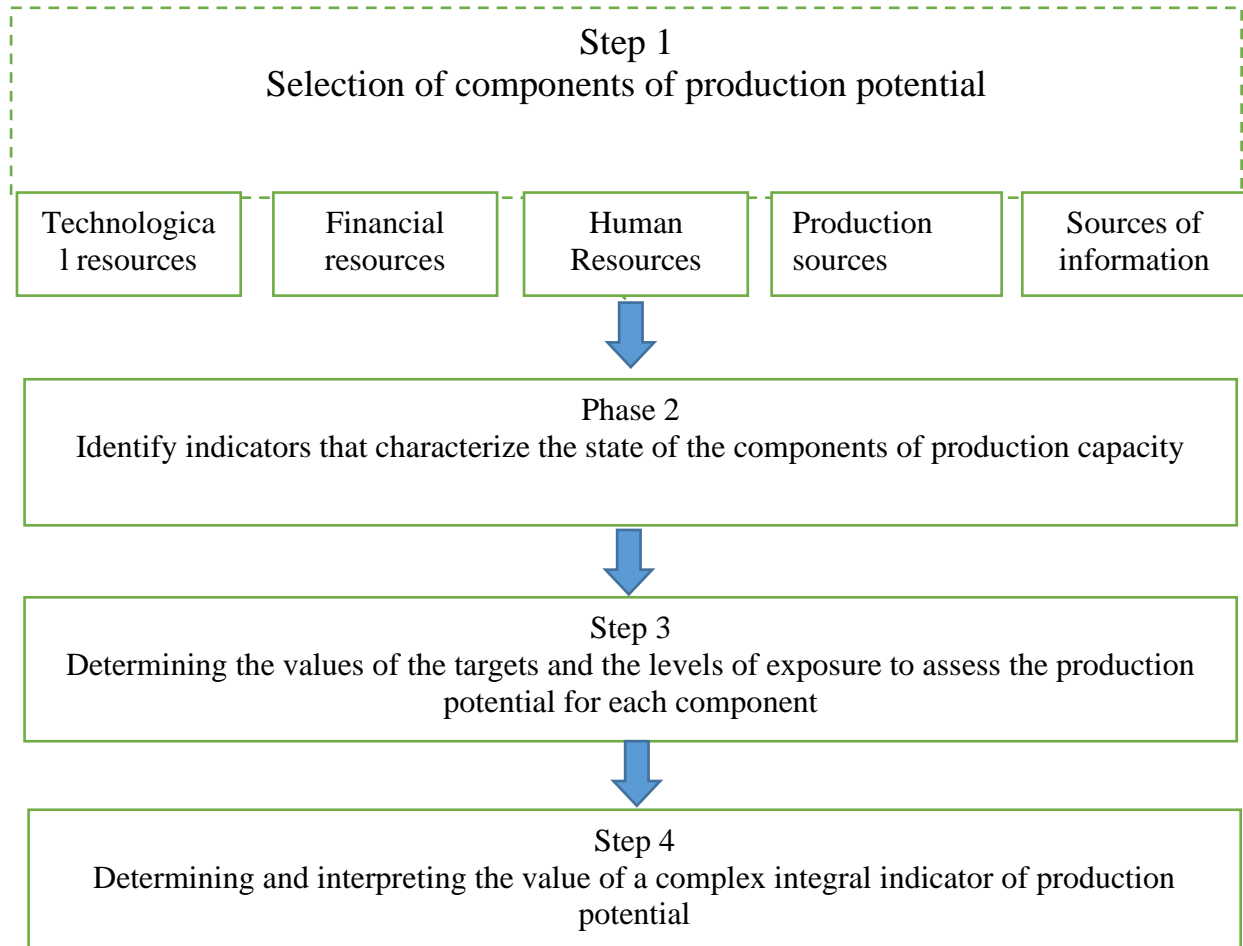


Figure 1. Methodology for assessing the production potential of grain processing enterprises.

At the stage of selection of components of production capacity, five components were developed in order to more accurately and comprehensively assess the level of production potential.

Personnel is one of the components of the production potential of the enterprise - it is the application of knowledge, skills and abilities of workers in the production process, which is necessary for the effective solution of production problems.

Financial resources are the own, borrowed and attracted funds used by enterprises in the formation and production of their assets, as well as in the implementation of financial activities as a component of production capacity. In other words, financial resources represent the ability of enterprise management to strengthen its production capacity, i.e., the production component, through the modernization of applied technologies and the training of employees.

Production resources are realized through the provision of the production process as one of the main components of production potential and are represented by production assets.

¹ Bakanov M.I., Sheremet A.D. Theory of economic activity analysis. -M.: Finance and Statistics, 1989; Kravchenko L.I. Ekonomicheskiy analiz deyatelnosti predpriyatiy torgovli i obshchestvennogo pitaniya. - Minsk.: Vysshaya Shkola, 1977; Analysis of financial and economic activity of enterprises and associations. - M.: Finance and Statistics, 1989.

Technological resources are the most important component of production potential used in production activities and in the production process through the introduction of applied technologies to technological capabilities.

Information resources are a set of information about the processes and status of available resources that allow effective management and interaction between all components of the production capacity of the enterprise.

For a comprehensive assessment of the production potential of grain processing enterprises, it is recommended to use indicators that fully reflect the production capacity. The importance of these proposed targets takes into account not only the quantitative but also the qualitative characteristics of the components of the production potential of enterprises.

The proposed indicators for assessing the production capacity of grain processing enterprises by component are given in Table 1.

Estimates of the components of production potential

Table 1

Components	Evaluation indicators
Technological resources	Production automation coefficient
	Continuity coefficient
	Degree of invalidity
Financial resources	Depreciation share
	Working capital
	Absolute liquidity ratio
Human Resources Department	The level of specialization of workers
	Degree of rationalization
	Employee dissatisfaction
Production sources	Production resources
	Productivity coefficient
	Production capacity
Sources of information	Significance level of information
	The level of value of information resources
	Information automation factor

To compare the actual and planned results of the enterprise's production activities, it is necessary to determine the value of targets. To assess the production potential for each component, we determine the values of the target indicators and the levels of impact.

The fact that the investments attracted and mastered in the Uzbek economy today are aimed at the purchase of new equipment, technical and technological modernization of enterprises and the construction of new enterprises can be interpreted as determining the future development of the country's economy. In the study of socio-economic processes, empirical formulas based on data collected on the basis of tests conducted in economic optimal modeling are used. One of the most effective ways to generate empirical formulas is the least squares (EQ) method. The ECC method is used effectively in the examination of functions to the extremum and in the construction of unknown functions by approximation (smoothing).

We relate the text of this method to the relation of two variables x and y . Suppose that the sequence of x is the result of n observations x_1, x_2, \dots, x_n values are generated. In these observations, y 's are also consistent y_1, y_2, \dots, y_n values found.

Points composed of these values $M_1(x_1, y_1), M_2(x_2, y_2), M_n(x_n, y_n)$ if the plane is scattered around any line in the coordinate system, then it is n - degree as an approximate function $y = a_0 + a_1x + a_2x^2 + \dots + a_nx^n$ polynomial can be obtained.

That's all $a_0, a_1, a_2, a_3, \dots, a_n$ s are currently unknown parameters. In this functional connection $a_0, a_1, a_2, a_3, \dots, a_n$ a system of normal equations is used to find the parameter values.

Scientific and econometric analysis of the dynamics of statistical data of Uchkurgan,

Namangan, Pop grain processing enterprises for 2010-2019 using economic mathematical tools in a comprehensive assessment of the production potential of enterprises in the field of grain processing on the basis of a system of normal equations.

Table 2
Economic indicators of enterprises in terms of product value at current prices

Value of the product at current prices (billion soums)			
Years	Namangan	Uchkurgan	Pop
2010	26,21	39,3	2,89
2011	30,93	45,8	14,42
2012	35,71	59,8	19,77
2013	39,17	47,7	21,56
2014	34,02	58,1	23,14
2015	38,57	64,8	24,04
2016	39,02	72,2	27,64
2017	49,93	81,7	26,79
2018	67,22	110,6	33,01
2019	82,51	159,6	39,37

The planned value of the production potential of the enterprise will determine its capabilities over a significant period of time, based on current market conditions. The reserve part of the production potential of the enterprise describes the reserves that can be used in favorable market conditions and their rational use.

Econometric analysis of changes in the value of products at current prices of grain processing enterprises is expedient, $R^2 = 0.9897$ ($\alpha = 0.05$ when $t_{жад} = 2,11$ and $F_{жад} = 2,272$) A reliable and adequate regression model for the criteria is as follows:

$$y_{Учкургон} = 0,0019t^6 - 0,0443t^5 + 0,3373t^4 - 0,3715t^3 - 6,1715t^2 + 27,671t + 17,297$$

Here: $y_{Учкургон}$ - Product value at current price (Uchkurgan grain JSC), t-time (years).

The econometric model of the change in the value of the product at the current price for the Namangan grain processing plant is as follows:

$$y_{Наманган} = -0,0006t^6 + 0,0032t^5 + 0,1879t^4 - 2,3971t^3 + 9,5901t^2 - 9,9959t + 28,784$$

$$R^2 = 0,9941$$

Here: $y_{Наманган}$ - Product value at current price (Namangan grain JSC), t-time (years).

The econometric analysis of the change in the value of the product at the current price for a pop grain processing plant is represented by the following model:

$$y_{Поп} = -0,0008t^6 + 0,0314t^5 - 0,4856t^4 + 3,8908t^3 - 17,376t^2 + 43,102t - 26,328$$

$$R^2 = 0,9937$$

Here: $y_{Поп}$ - Product value at current price (Pop don AJ), t-time (years).

According to the results of the analysis of the value of products at current prices from the economic indicators of grain processing enterprises in the table, the indicators of the three enterprises for 2010-2019 were econometrically analyzed. According to the results of the analysis, if we look at the differences between the actual values of the economic indicators and the model values, the differences in the economic indicators of Namangan and Pop grain processing enterprises are almost

negative. (Table 3)

Table 3
Analysis of economic indicators of grain processing enterprises

Value of the product at current prices (billion soums)									
Years	Namangan			Uchkurgan			Pop		
	Real value	Model value	difference	Real value	Model value	difference	Real value	Model value	difference
2010	26,21	26,17	0,04	39,3	38,3	1	2,89	2,83	0,06
2011	30,93	31,05	-0,12	45,8	49,08	-3,28	14,42	14,68	-0,26
2012	35,71	35,94	-0,23	59,8	52,68	7,12	19,77	19,35	0,42
2013	39,17	37,75	1,42	47,7	54,23	-6,53	21,56	21,61	-0,05
2014	34,02	36,98	-2,96	58,1	56,98	1,12	23,14	23,19	-0,05
2015	38,57	36,69	1,88	64,8	62,22	2,58	24,04	24,56	-0,52
2016	39,02	40,86	-1,84	72,2	70,01	2,19	27,64	26,03	1,61
2017	49,93	52,47	-2,54	81,7	81,51	0,19	26,79	28,44	-1,65
2018	67,22	71,04	-3,82	110,6	102,51	8,09	33,01	33,12	-0,11
2019	82,51	89,74	-7,23	159,6	148,36	11,24	39,37	41,39	-2,02

Source: Developed by the author.

According to the table, the volume of actual production at the Namangan grain processing plant in 2010, 2013 and 2015 amounted to 0.04 billion soums, respectively, from the value of the following econometric model. soums, 1.42 bln. soums and 1.88 bln. soums. This positive result can be explained by the fact that the company was provided with raw materials in a timely manner during the period and the company was able to operate at full capacity.

The main reason for the negative results of the enterprise for the remaining periods can be considered as the obsolescence of the equipment currently used in the enterprise and the lack of raw materials, the lack of modernization, the lack of competitiveness of product quality.

The differences in the performance of Uchkurgan Grain Processing Enterprise in 2011 and 2013 are negative, and in other years they are positive. This is due to the fact that in 2015, the company's production facilities were completely reconstructed. In accordance with the Resolution of the President of the Republic of Uzbekistan dated November 17, 2014 No 2264 "On the Investment Program of the Republic of Uzbekistan for 2015", a project to re-equip the mill shop of JSC "Uchkurgan Grain Products" with energy-saving technology. The project was re-equipped in Turkey on the basis of modern energy-saving technology with a processing capacity of 300 tons of grain per day by ALAPALA MAKINA, and was launched on April 1, 2016 and is now operating at full capacity. After the modernization of the mill, product quality has improved, production losses have decreased, electricity consumption has decreased, labor productivity has increased, and the cost of spare parts has stopped.



Figure-2 Econometric analysis of changes in the value of products at current prices of grain processing enterprises.

Analysis of the models shows that among the grain processing enterprises in Namangan region, Uchkurgan grain processing enterprises have a high production capacity. This, in turn, requires the purchase of new equipment based on modern requirements, modernization of technical and technological processes of enterprises for further development of enterprises.

Another feature of a useful approach to assessing the potential of the enterprise is that in the process of its implementation is mainly reflected in the formation and change of the actual price value of the enterprise's products. In the current market economy, as a key indicator in the implementation of an effective and profitable approach to determining the production capacity of the enterprise, we can conclude that the depreciation of the means of production of the enterprise should be taken into account. Therefore, it is necessary to equip the production facilities of the enterprise with modern low-energy, high-efficiency technologies.

Conclusion/Recommendations

In short, the essence of achieving the long-term strategic goal of economic development of enterprises in Uchkurgan, Namangan, Pop grain processing dates back to the early days of independence. It is expedient to continue the policy of accelerated development as the main priority. Because the growing potential of enterprises, new modern facilities launched in recent years, the development of production and social infrastructure, systemic reforms and liberalization of the economy, the extremely favorable investment climate created in the country allow to set higher target strategies.

References

1. Decree of the President of the Republic of Uzbekistan dated February 7, 2017 No PF-4947 "On the strategy of further development of the Republic of Uzbekistan." Lex.uz.
2. G'ofurov M., Kholmurodov M., Khusanov K. Economic-mathematical methods and models. –T.: AGNI, 2001. - 100 p.

3. Shodiev T.Sh. and others. Economic-mathematical methods and models. –T.: 2000. - 96 p.
4. Kholmurodov M.K., Zhalilov B.S. Mathematical modeling and forecasting of food industry enterprises. Second International Scientific Conference “Mathematical Modeling and Differential Equations”. Part I. Minsk, 24-28-August 2009.-Minsk: Institute of Mathematics of the National Academy of Sciences of Belarus, 2009.-114s
5. Madrahimovich, R. N., & Bulturbayevich, M. B. (2019). Advantages of vertical integrated enterprises (under light industry enterprises). *Test Engineering and Management*, 81(11–12), 1596–1606. <http://testmagazine.biz/index.php/testmagazine/article/view/222/194>
6. Bulturbayevich, M. B., & Sharipdjanovna, S. G. (2020). Improving the efficiency of management of vertical integrated industrial enterprises. *Test Engineering and Management*, 83, 5429–5440. <http://testmagazine.biz/index.php/testmagazine/article/view/4483/3817>
7. Mullabayev Baxtiyarjon Bulturbayevich, Mirzabdullayeva Gulnora, Inamova Guligavkhar. (2020). Analysis of Macroeconomic Indicators and Forecast of Scenarios of the Republic of Uzbekistan. *International Journal of Advanced Science and Technology*, 29(11s), 04 - 12. Retrieved from <http://sersec.org/journals/index.php/IJAST/article/view/19921>
8. Mullabayev Baxtiyarjon Bulturbayevich, Inamova Guligavkhar, Umarova Gulchekhra. (2020). Issues Of Development Of Light Industry Enterprises Through Modern Management Mechanisms And Forecasting Of Corporate Structures On The Basis Of Vertical Integration Processes. *International Journal of Advanced Science and Technology*, 29(11s), 1975-1986. Retrieved from <http://sersec.org/journals/index.php/IJAST/article/view/21866>
9. Mahmudov Nosir Mahmudovich, Dadaboev Tulkinjon Yusupjonovich “Development of Integrated Horticulture based on Investments (In the Case of Uzbekistan)” *International Journal of Recent Technology and Engineering (IJRTE)* ISSN: 2277-3878, Volume-8, Issue-3S, October 2019 DOI: 10.35940/ijrte.C1088.1083S19
10. Bayhonov, B.T., & Qorabayev, Sh. A (2019). Econometric Modeling of Investment Assessment on Investment Capacity Distribution by key Capital (Republic of Uzbekistan). *Test Engineering and Management*, 81(11–12), 1567–1580. <http://testmagazine.biz/index.php/testmagazine/article/view/220/192>
11. Bayhonov Bahodirjon Tursunbaevich; Qorabayev Shuxratjon Axmadjonovich. "Improving Management Based On The Forecast Of Investment Utilization In Industrial Enterprises". *European Journal of Molecular & Clinical Medicine*, 7, 7, 2020, 809-816.
12. Mullabayev Baxtiyarjon Bulturbayevich; Abdulkakimov Zuhrali Tursunalievich; Mamajonova Tuygunoy Ahmadjanovna; Usmanov Chorshanbi Bozorovich; Nuriddinova Nilufar Nuriddin qizi. "Development Of Public-Private Partnership In The Organization Of Regional Tourist And Recreational Complexes". *European Journal of Molecular & Clinical Medicine*, 7, 7, 2020, 778-788.
13. Makhmudov Bakhriddinkhon Jo'rayevich; Ismoilov Ravshanjon Baxritdinovich; Mullabayev Baxtiyarjon Bulturbayevich. "The Role Of Regional Governance In The Development Of Small Business And Private Entrepreneurship". *European Journal of Molecular & Clinical Medicine*, 7, 7, 2020, 705-711.
14. Mullabayev Baxtiyarjon Bulturbayevich .. "Management Of Innovation Processes - An Important Factor For Increasing The Competitiveness Of Enterprises". *European Journal of Molecular & Clinical Medicine*, 7, 7, 2020, 712-719.
15. Mullabayev Baxtiyarjon Bulturbayevich .; Axunova Shoxista Nomanjanovna; Abdulkhakimov Zuhrali Tursunalievich; Tuxtasinova Dildora Rakhmonberdievna. "Problems And Prospects Of Development Of Agrolistics In The Republic Of Uzbekistan". *European Journal of Molecular & Clinical Medicine*, 7, 7, 2020, 763-768.
16. Dadaboev Tulkinjon Yusupjonovich. "Assess The Impact Of Land Reclamation On Increasing Agricultural Productivity". *European Journal of Molecular & Clinical Medicine*, 7, 7, 2020, 769-777.
17. Dadaboev Tulkinjon Yusupjonovich .. "Rational Use Of Water In Agriculture Of The Republic Of Uzbekistan And Its Problems". *European Journal of Molecular & Clinical Medicine*, 7, 7, 2020, 798-808.