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# Strategizing for The Competitiveness of Branches and Enterprises of Industry in The Spatial Development of The Region

# Estrategias para la competitividad de las sucursales y empresas de la industria en el desarrollo espacial de la región

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**Abstract.**

The issues related to developing the industrial complex of a particular region or country in terms of the need to increase competitiveness in the modern conditions of economic instability have been discussed in the article. The synthesis of methods of strategic matrix and factor analysis with data sampling and consideration for the Kaiser normalization criterion is the methodological basis of the work. In particular, the methods include procedures for determining weighting factors based on the comprehensive ranking of expert estimates using the simplex method with bringing the initial data to the linear programming problem. The authors have made the conclusions that allow, using a specific example, to determine the strategic positions of enterprises and industries in the region, outlining possible paths to increase competitiveness.



***Keywords:*** branch of industry, strategic positioning, enterprise competitiveness, space of a region.

**Resumen**

Las cuestiones relacionadas con el desarrollo del complejo industrial de una región o país en particular en términos de la necesidad de aumentar la competitividad en las condiciones modernas de inestabilidad económica se han discutido en el artículo. La síntesis de métodos de matriz estratégica y análisis factorial con muestreo de datos y consideración para el criterio de normalización de Kaiser es la base metodológica del trabajo. En particular, los métodos incluyen procedimientos para determinar factores de ponderación basados en la clasificación integral de estimaciones de expertos utilizando el método simplex para llevar los datos iniciales al problema de programación lineal. Los autores han llegado a conclusiones que permiten, utilizando un ejemplo específico, determinar las posiciones estratégicas de las empresas e industrias en la región, describiendo posibles caminos para aumentar la competitividad.

**Palabras Claves**: rama de la industria, posicionamiento estratégico, competitividad empresarial, espacio de una región.

## Introduction

Under the conditions of economic instability caused by the aggravation of the geopolitical situation, when it becomes inevitable that the positioning of economic entities in domestic and foreign markets becomes more complicated, attention is increasingly focused on the formation of competitive strategies of the regions of the Russian Federation in order to find ways and methods to maintain the achieved production and economic level and ensure the efficient sustainable development of industry. At the same time, the competitive strategizing of the enterprises which form the industrial complexes of the country and regions suffers from a lack of theoretical and methodological explanation of the processes of organizational and economic transformation and factors that influence their success.



The need to identify priority areas for increasing the strategic competitiveness of industries for a long term is caused by the fact that the possibilities of extensive development are almost exhausted at the moment. The need for the intensification of production, the growth of labor productivity, and the introduction of advanced IT technologies is perceived by the management as an indispensable element in ensuring regular economic activity of industrial enterprises today.

Therefore, the task of finding a valid organizational and economic mechanism to increase the competitiveness of industrial enterprises is prioritized by the consequences of crisis and adverse processes. In other words, competitiveness management is becoming a backbone element for ensuring the sustainability of the economic activity of the modern industrial enterprises.

The study of the region from the standpoint of various aspects has attracted the attention of many researchers. For example, the region is considered in the context of the method for assessing its economic security in the works of V.V. Akberdina, A.V. Grebenkin, O.P. Smirnova, and A.A. Kocherbayeva (2017; 2018). I.Yu. Anikin, S.V. Lapteva, A.V. Kozlov, and O.S. Tamer studied regional processes from the perspective of a synergistic approach (2019). M.A. Deryabina considered system analysis methods and

the region as a complex economic system (2018). The institutional approach to the study of the region is presented in detail in the works of S.G. Kirdina-Chandler and V.I. Mayevsky (2017). Social processes and their impact on the economy of the region can be found in the works of A.V. Plotnikov, E.A. Mitrofanov, M.V. Simonov, V.V. Tarasenko and others (Mitrofanova, Simonova, Tarasenko, 2020; Plotnikov et al., 2019; Prudskiy, Oshchepkov, 2015a; 2015b). Technological aspects of the development of the regional economy and methods of strategic analysis are studied in the works of Russian scientists (Prudskiy, Oshchepkov, Zhdanov, 2018; Prudskiy et al., 2017). The methods of classification analysis and cluster formation in the sectors of industrial regions are presented in the authors' developments (Semenov, 2018; Smirnova, Barbakov, Ponomareva, Vinogradova, 2019; Smirnova, Kocherbaeva, Averina, Saiakbaeva, 2019; Vlados, 2019). The development of some sectors of the economy, for example, the power industry, is considered in the study by E. Akhmetshin, S. Zhiltsov, A. Dmitrieva, A. Plotnikov, and A. Kolomeytseva (2019). Thus, the aspects of strategic competitiveness in the development of priority sectors in some regions have not been studied well enough.

In this regard, the development of methods for the strategic development of industry in the region in the context of developing individual branches and enterprises is particularly attractive. The solution of this problem requires not only new methods for managing processes, but also the updated competitiveness assessment tools based on quantitative and qualitative criteria and indicators reflecting the organizational and economic changes, which, in turn, determine the requirements of production management in the coordinated and balanced strategic development.

## Methods and materials

Based on the expert analysis, the process of the influence of environmental factors on the strategic competitiveness of industry in the Perm region can be evaluated.

The data in Table 1 describe the strategic competitiveness of industry in the Perm region according to the following criteria.

I. Adaptability to environmental factors.

This criterion relates to the factors that shape the systemic trends in the industry development in the Russian Federation as a whole and the level of its integration into the world economy.



II. Ability to build up the competitive advantage.

*Table 1. The impact of environmental factors on the strategic competitiveness of industry in the Perm region.*

| Factors of the strategic competitiveness | | **Megaenvironment** | | | | | | **Mesoenvironment** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Score | 1 | 2 | 3 | 4 | 5 | Score | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| **Macroenvironment** | Score | | 19.95 | 19.75 | 21.25 | 15.4 | 15.15 | | 20.9 | 19.7 | 21.5 | 16.8 | 19.75 | 22.5 | 19.1 | 19.5 | 19.65 | 22.5 | 22.5 |
| | 1 | 19.70 | | | | | | 19.70 | | | | | | | | | | | |
| | 2 | 19.50 | | | | | | 19.50 | | | | | | | | | | | |
| | 3 | 21.00 | | | | | | 21.00 | | | | | | | | | | | |
| | 4 | 20.15 | | | | | | 20.15 | | | | | | | | | | | |
| | 5 | 19.50 | | | | | | 19.50 | | | | | | | | | | | |
| **Microenvironment** | Score | | 19.95 | 19.75 | 21.25 | 15.4 | 15.15 | | 20.9 | 19.7 | 21.5 | 16.8 | 19.75 | 22.5 | 19.1 | 19.5 | 19.65 | 22.5 | 22.5 |
| | 1 | 17.3 | | | | | | 17.3 | | | | | | | | | | | |
| | 2 | 18.6 | | | | | | 18.6 | | | | | | | | | | | |
| | 3 | 16.8 | | | | | | 16.8 | | | | | | | | | | | |
| | 4 | 17.1 | | | | | | 17.1 | | | | | | | | | | | |
| | 5 | 18.35 | | | | | | 18.35 | | | | | | | | | | | |
| | 6 | 17.9 | | | | | | 17.9 | | | | | | | | | | | |
| | 7 | 17.9 | | | | | | 17.9 | | | | | | | | | | | |
| | 8 | 18.45 | | | | | | 18.45 | | | | | | | | | | | |
| | 9 | 18.75 | | | | | | 18.75 | | | | | | | | | | | |
| | 10 | 18.1 | | | | | | 18.1 | | | | | | | | | | | |
| | 11 | 15.9 | | | | | | 15.9 | | | | | | | | | | | |

Notes for Table 1:

| Factors | Number |
|---|---|
| Macroenvironment | - |
| State industrial, scientific, technical, financial, and tax policy | 1 |
| Lobbying and availability of state orders | 2 |
| Dimension of segments and degree of concentration of the production and consumption market | 3 |
| Degree of integration and barriers to entry and exit | 4 |
| Availability of technology and patents | 5 |
| Microenvironment | - |
| Development strategy for the industrial enterprise | 1 |
| Success in positioning products in the markets | 2 |
| Organizational and production structure of an industrial enterprise | 3 |
| Infrastructure of an industrial enterprise | 4 |
| Price and quality parameters of products | 5 |
| Marketing, logistics, and sales | 6 |
| Brand image | 7 |
| Demand for products in foreign and domestic markets | 8 |
| Level of competitiveness of an industrial enterprise | 9 |
| Qualification of the personnel and competency of the management | 10 |
| IT level of production equipment and industrial enterprise management systems | 11 |
| Megaenvironment | - |
| Global competitive environment | 1 |
| Conditions of economic instability | 2 |
| Consequences of economic crises | 3 |
| International law; WTO standards | 4 |
| Rules and regulations of the Eurasian Economic Union | 5 |
| Mesoenvironment | - |
| Regional economic policy | 1 |
| Strategizing and programming of branches | 2 |
| Territorial localization of branches and industrial enterprises | 3 |

| | |
|---|---|
| Availability of industrial clusters | 4 |
| Industry specialization | 5 |
| Production and economic potential and resource base | 6 |
| Gross regional product (GRP) structure | 7 |
| Balance of supply and demand of labor resources in branches of the economy | 8 |
| System of professional and supplementary professional education in the region | 9 |
| Investment attractiveness of branches of industry in the region | 10 |
| Industry innovation level | 11 |



Adaptability to environmental factors –
Ability to build up competitive advantage –
Strategic positioning –

This criterion includes the factors reflecting the achieved level and current trends in the development of industries of the Perm Territory.

Strategic positioning combines the factors that are able to adjust the strategic positions of industry in the region and serve as the basis for developing directions for increasing its competitiveness.

The main role in increasing the strategic competitiveness of the region is assigned to the second and third criteria.

As such, the quality of managerial processes in ensuring the strategic competitiveness of industry in the region lies in the clarity of ranking factors in the implementation of factor analysis to substantiate the indicators that allow assessing the achievement of the parameters set in the implementation of measures that satisfy the tasks of branches and industrial enterprises in building up competitive advantages.

In this regard, the authors consider it necessary to review the current trends in increasing the strategic competitiveness of industry in the region.

The comparative analysis of the existing approaches to assessing the management efficiency described in the works of Russian and foreign authors revealed the diversity

and ambiguity of the methods, indicators, and criteria used, which to some extent complicated the possibility of a reasonable choice by the management of the branches of industry in relation to the tasks of increasing strategic competitiveness.



At the same time, the study of the specifics of the sectorial development of industry in the Perm region indicated that in practice, strategic competitiveness is assessed either being generalized to a high degree, without reflecting the influence of modern factors, or is not assessed at all.

The revealed lack of the generally accepted methodological and practical approaches allowed to formulate an authors' vision and propose an augmented methodological approach for assessing the current level of strategic competitiveness of industry (Table 2).

*Table 2. Methodological tools for assessing the current level of the industry competitiveness in the region.*

| Stage | Content |
|---|---|
| Stage I. Justification of the selection of criteria and indicators of the industry competitiveness by branches and enterprises, primary processing of the source indicators | The criteria and indicators are selected, which reflect the following:<br>– the level of competitiveness of the enterprise, X (sustainability ($X_1$) and performance ($X_2$)), and<br>– the level of the industry development in the region, Y (production volume in the branch ($Y_1$), facilities used ($Y_2$), and share in GRP ($Y_3$)).<br>The weighting factors of the significance of each indicator are estimated for an integrated assessment. The comprehensive ranking of expert estimates using the simplex method serves as the methodological basis of this procedure. |
| Stage II. Calculation of integral indicators taking the weighting factors into account | Two integral indicators are estimated:<br>**1) Level of competitiveness of the enterprise, X**<br>X = ($X_{1i}$+$X_{2i}$)/2 (1), where<br>$X_{1i}$ is the indicator of sustainability of the i-th enterprise ($X_{1i} = \frac{X_{1bi}}{X_{1bz}}$) (2), where<br>$X_{1bi}$ is the score for sustainability of the i-th enterprise, and<br>$X_1 bz$ is the total score for sustainability of the totality of selected objects.<br>The score is found using the following scale: |

| | |
|---|---|
| | <table><tr><th>Sustainability of the enterprise</th><th>Score (0 – 1)</th></tr><tr><td>Advancing</td><td>1</td></tr><tr><td>Promising</td><td>0.9</td></tr><tr><td>Developing</td><td>0.8</td></tr><tr><td>Positive</td><td>0.7</td></tr><tr><td>Stable</td><td>0.6</td></tr><tr><td>Satisfactory</td><td>0.5</td></tr><tr><td>Unsatisfactory</td><td>0.4</td></tr><tr><td>Precrisis</td><td>0.3</td></tr><tr><td>Crisis</td><td>0.2</td></tr><tr><td>Critical</td><td>0.1</td></tr></table><br>$X_{2i}$ is the indicator of performance of the i-th enterprise $X_{2i} = X_{2mi} /X_{2z}$ (3), where<br>$X_{2mi}$ is the average performance of the i-th enterprise for m years, and<br>$X_{2z}$ is the total performance of the aggregate of selected objects.<br><br>**2) Level of the industry development in the region, Y**<br><br>Y = $(Y_{1i} + Y_{2i} + Y_{3i})/3$ (4), where<br><br>$\boldsymbol{Y_1} = \frac{Y_{1mi}}{Y_{1mz}}$ is the share of the i-th industry in the total average industrial production of the region over m years (5), where<br><br>$Y_{1mi}$ is the average production volume of the i-th branch for m years,<br>$Y_{1mz}$ is the total average industrial production of the region for m years,<br>$Y_{2i}$ is the average annual capacity utilization of the i-th branch, and<br>$Y_{3i} = \frac{Y_{3i}}{GRP}$ is the average share of the i-th branch in GRP for m years (6), where<br>$Y_{3i}$ is the average production volume of the i-th branch for m years. |
| Stage III. Positioning of enterprises in the context of the level of competitiveness and the level of the | The graphical study of the strategic profile of the industry competitiveness in the region:<br>The coordinates of the enterprise: Xi is the level of competitiveness of the enterprise; Yi is the level of development of the branch.<br>Interpretation of the results. |

| | |
|---|---|
| industry development | |
| Stage IV. Strategic analysis of the industry competitiveness in the region. | Building a strategic field of industry in the region based on matrix methods. Classification of the development strategies for regional industries (allocation of nine types of competitiveness strategies). |
| Stage V. Identification of directions for increasing the industry competitiveness in the region | Development of directions for increasing the strategic competitiveness of industry in the region, depending on the affiliation of industry (enterprises) to a particular type of strategy. |



The synthesis of the methods of strategic matrix and factor analysis with data sampling and consideration for the Kaiser normalization criterion served as the presented methodological tools for assessing the current level of the industry competitiveness in the region. The comprehensive ranking of expert estimates using the simplex method, based on the reduction of the source data to the linear programming problem, served as the methodological basis of the procedure for determining weighting factors.

Let us consider each of the stages of the proposed methodological tools in more detail.

Stage I. Justification of the selection of criteria and indicators of the industry competitiveness by branches and enterprises; primary processing of the source indicators include:

– sampling of the enterprises included in the strategic field of the industry development in the region (the criteria are the following: temporary, spatial, and sectoral, which together allow to implement this procedure);

– determination of indicators for calculating the competitiveness level of the enterprise, X: sustainability ($X_1$) (net assets, financial stability, own working capital, investment activity, and fixed assets), performance ($X_2$) (revenue, sales of commercial products, business activity, utilization of production capacity, and innovation activity);

– selection of indicators to estimate the level of the industry development in the region, Y: production volume in the branch ($Y_1$) (volume of goods shipped), facilities used (($Y_2$) (average annual production capacity utilization level), industry share in GRP ($Y_3$)); and



– calculation of weighting factors of significance of each indicator for an integrated assessment.

Stage II. Calculation of integral indicators taking weighting factors into account.

Sustainability of the enterprise is assessed on a scale that includes the division of the obtained estimates of the enterprise sustainability into the following categories: advancing, promising, developing, positive, stable, satisfactory, unsatisfactory, precrisis, crisis, and critical in increments of 0.1.

Assessment of the level of the industry development in the region is carried out for a period determined on the basis of the goals and objectives of the industrial policy of the region of the Russian Federation.

Stage III. Positioning of enterprises in the context of the level of competitiveness and the level of the industry development involves the construction of diagrams that reflect the correspondence of the strategic profile of the region and the level of development of branches. This allows to identify the weak point in the development of a particular branch and the growth opportunities for industry in the region as a whole.

Stage IV. Strategic analysis of the industry competitiveness in the region. A strategic field is being built to determine the types of strategies for increasing the competitiveness of the industry branches in the region. Nine types of strategies are distinguished: seeking for new niches type, a reproductive type, a type of supportive development, a type of active growth, a cluster type, a type of advancing development, a promising innovative type, a type of capacity building, and a leadership type.

Stage V. Identification of directions for increasing the industry competitiveness in the region.

Directions for increasing the strategic competitiveness of industry in the region are developed at this stage, depending on whether the branches (enterprises) belong to a particular type of strategy.

The proposed methodological tools for assessing the level of strategic competitiveness of industry in the region were tested by the authors using the data from the Perm region.



*Stage I.* Justification of the selection of criteria and indicators of the industry competitiveness by branches and enterprises.

The initial processing of the source indicators was carried out at this stage.

The following criteria were defined:

– *temporal* (for 2014 – 2019);

– *spatial* (the largest industrial enterprises selected by the volume of production in industry of the region and located in the Perm region);

– *sectoral* (a sectoral selection was made on the basis of the list of priority branches of a particular region of the country indicated in the Strategy for Spatial Development of the Russian Federation (Order of the Government of the Russian Federation No. 207-r, 2019) and the All-Russian Classifier of Economic Activities OK 029-2014) – nine industries of the Perm region: production of chemicals and chemical products, extraction of crude oil and natural gas, production of coke and petroleum products, machine building, production of paper and its products, mining of other minerals, woodworking industry, IT industry and communications, metallurgical production, food industry, and textile industry.

The boundaries of the criteria were established based on the role of specific enterprises and branches of industry in the economy of the Perm region for 2014 – 2019.

A selection of enterprises forming the strategic field for the development of industry in the Perm region was made on this basis ($33^1$ largest enterprises).

## Results and Analysis

The results of calculating the weighting factors of the significance of each indicator for an integrated assessment using the simplex method, based on the reduction of the source data to the linear programming problem, are presented in Table 3.



*Table 3. Results of the calculation of weighting factors of integral indicators**

| | | | |
|---|---|---|---|
| X | X1 | X2 | - |
| Value of the weighting factor | 0.2 | 0.8 | - |
| Y | Y1 | Y2 | Y3 |
| Value of the weighting factor | 0.35 | 0.25 | 0.45 |

** The procedure for calculating weighting factors is based on the application of the Kemeny median search method*

The following results were obtained at stage I: a system of indicators reflecting the level of strategic competitiveness of industry in the region, and weighting factors of significance of each of the selected indicators.

Stage II. Calculation of integral indicators taking weighting factors into account.

The resulting indicators along the X axis were obtained as a result of calculating the level of the enterprise competitiveness.

It must be noted that the range of indicators for enterprises ranges from 0.05 to 2.1, which describes the sample of enterprises as a relatively homogeneous population in which most objects tend to a linear trend.

The following results were obtained as a result of calculating the level of the industry development in the region, Y.

Depending on the branch, the dispersion of indicators ranges from 0.03 to 0.15, which also describes the sample as representative and homogeneous.

The following results are obtained following the calculations of integral indicators on the X and Y axes (Table 4).

*Table 4. The value of integral indicators along the X and Y axes for industrial enterprises and branches of the Perm region*

| # | Industrial enterprise | Level of enterprise competitiveness in the market of the Perm region (X) | Industry development level (Y) |
|---|---|---|---|
| 1 | Lukoil-Permnefteorgsintez LLC | 0.207 | 0.107 |
| 2 | Lukoil-Perm LLC | 0.162 | 0.133 |
| 3 | PJSC Uralkali | 0.099 | 0.115 |

| | | | |
|---|---|---|---|
| 4 | JSC Er-Telecom Holding | 0.092 | 0.072 |
| 5 | Uralchem Trading House LLC | 0.058 | 0.115 |
| 6 | PJSC Metafrax | 0.078 | 0.115 |
| 7 | Kama Cable LLC | 0.096 | 0.056 |
| 8 | JSC UEC Perm Engines | 0.068 | 0.090 |
| 9 | JSC Solikamskbumprom | 0.068 | 0.081 |
| 10 | JSC Novomet-Perm | 0.064 | 0.090 |
| 11 | Uraloil LLC | 0.083 | 0.133 |
| 12 | JSC Gubakhinsky Coke | 0.114 | 0.107 |
| 13 | Halopolymer Kirovo-Chepetsk LLC | 0.092 | 0.115 |
| 14 | JSC UEC Aviadvigatel | 0.073 | 0.090 |
| 15 | JSC Sibur-Khimprom | 0.044 | 0.115 |
| 16 | Sveza Uralsky LLC | 0.063 | 0.073 |
| 17 | Motovilikha – Civil Machine Building Company LLC | 0.093 | 0.090 |
| 18 | JSC Bereznikovsky Soda Plant | 0.021 | 0.115 |
| 19 | JSC Chusovskoy Metallurgical Plant | 0.062 | 0.056 |
| 20 | Yugovskoy Dairy Products Factory LLC | 0.072 | 0.051 |
| 21 | JSC Aviation Gearboxes and Transmissions – Perm Motors | 0.081 | 0.090 |
| 22 | JSC UEC Star | 0.086 | 0.090 |
| 23 | PJSC Perm Scientific-Production Instrument Making Company | 0.107 | 0.090 |
| 24 | Tchaikovsky Textile Company LLC | 0.067 | 0.030 |
| 25 | Permtotineft LLC | 0.071 | 0.133 |
| 26 | JSC Halopolymer Perm | 0.102 | 0.107 |
| 27 | PJSC Proton-Perm Engines | 0.081 | 0.090 |
| 28 | Prikamsky cardboard LLC | 0.047 | 0.081 |
| 29 | Kungursky Meat Processing Plant LLC | 0.042 | 0.051 |
| 30 | Nytvensky Creamery LLC | 0.071 | 0.051 |

| | | | |
|---|---|---|---|
| 31 | JSC Perm Product Poultry Farm | 0.102 | 0.051 |
| 32 | Kama Pulp and Paper Mill LLC | 0.081 | 0.081 |
| 33 | INCAB LLC | 0.051 | 0.090 |



As such, the values of integral indicators are obtained at the second stage of testing the authors' tools, which allow to study the strategic profile of the industry competitiveness in the Perm region graphically.

Stage III. Positioning of the industrial enterprises in the Perm region in terms of the level of competitiveness and the level of development of the branch of industry can be represented as follows (Figure 1. The notation of the numbers on the horizontal axis corresponds to the numbers of companies from Table 4).

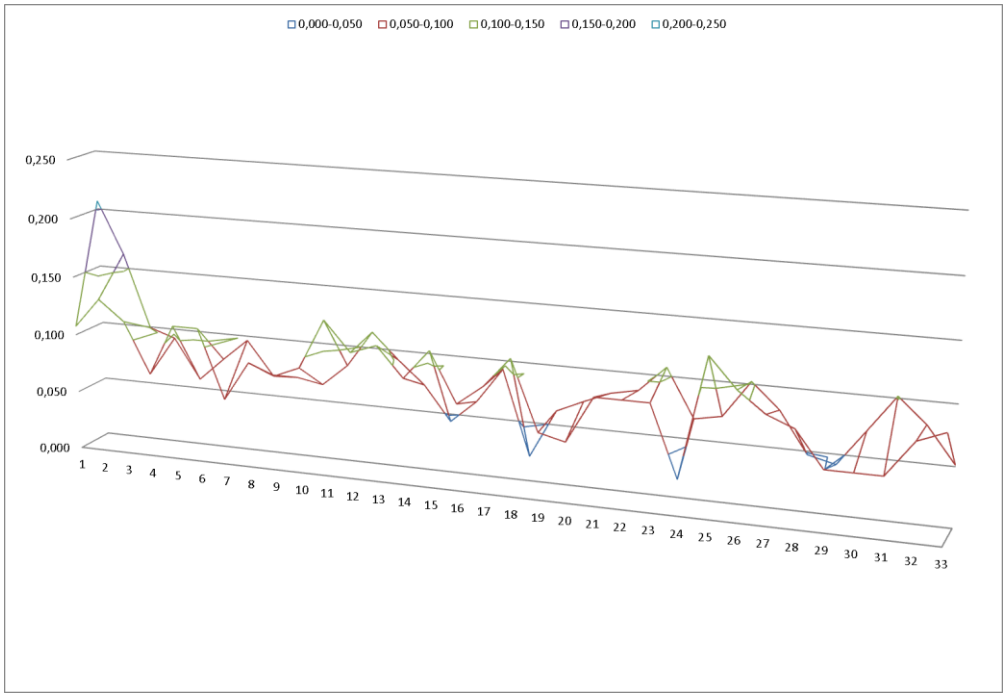


*Figure 1. Balance of the values of indicators of the level of competitiveness and the level of development of the branch of industry in the Perm region.*

Most enterprises are in the range from 0.05 to 1, which indicates an asymmetry in the development of the leading enterprises and the majority of the objects under study, as well as of the priority branches of industry.

If the correspondence between the strategic profile of the region and the level of development of industry branches is examined in detail, the problem field can be defined in the development of specific branches and the growth opportunities for industry in the region as a whole (Figure 2. The notation of the numbers on the pie chart corresponds to the numbers of companies from Table 4).



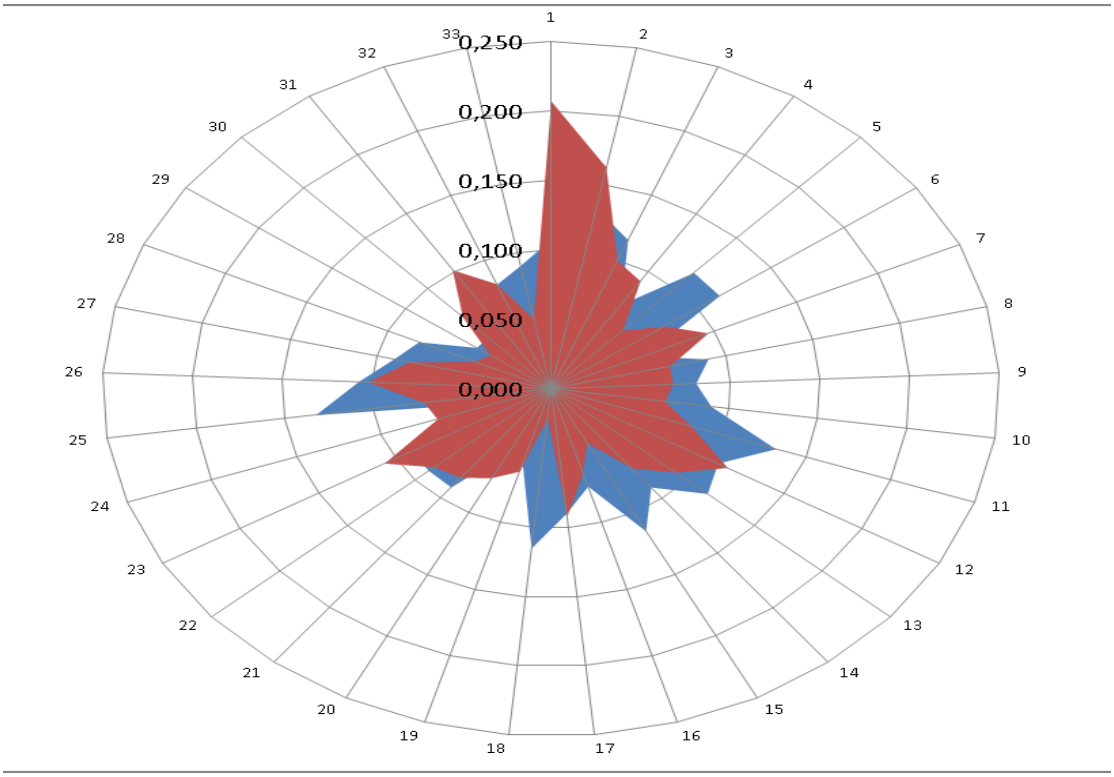


*Figure 2. Correspondence between the strategic profile of the region and the level of development of industry branches in the Perm region*

It can be seen in the figure that the potential of some branches of industry in the Perm region is much higher than the level of development of enterprises, which indicates the need to expand production, investment, and innovative opportunities through the accumulation of efforts both from the regional authorities and from the management of enterprises.

Stage IV. The strategic field of industry competitiveness in the region was built. The strategic field of industry competitiveness in the Perm region is represented in the figure (Figure 3. The notation of the numbers on the chart corresponds to the numbers of companies from Table 4).

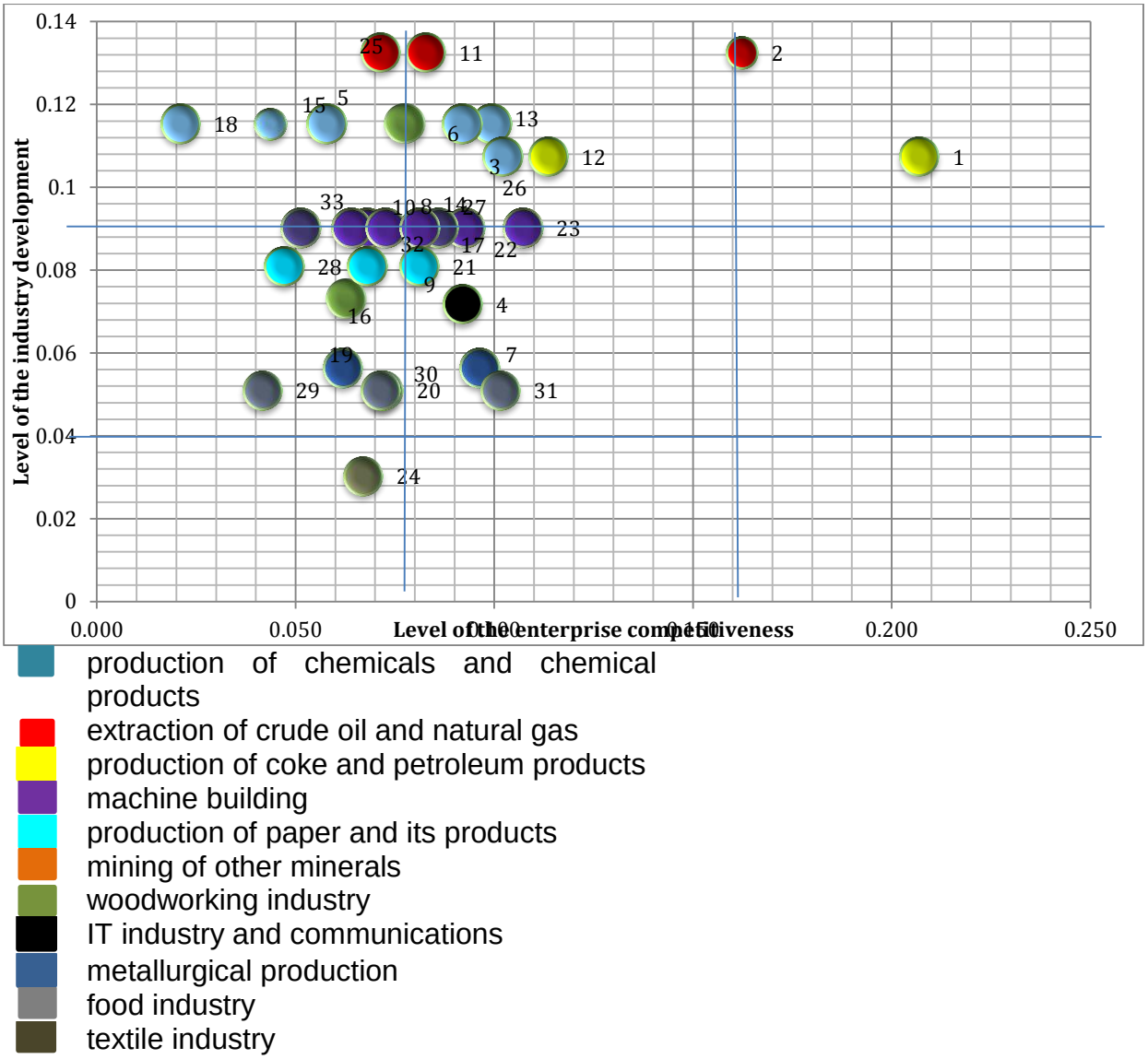


*Figure 3. Strategic field of industry competitiveness in the Perm region*

The strategic field of industry competitiveness in the Perm region allows to determine the types of strategies for increasing the competitiveness of branches of industry in the region.

A general view of the classification of the strategies for developing the competitiveness of branches of industry is presented in Figure 4.

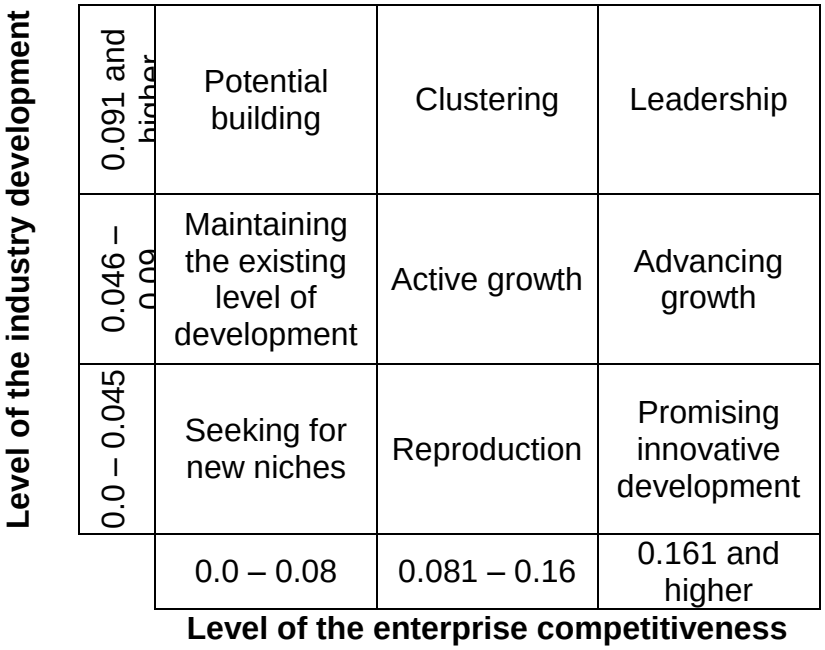


*Figure 4. Classification of the strategies for the industry competitiveness development in the region*

As such, the location of industries and enterprises on the strategic field of industrial competitiveness in the Perm region can be defined (Table 5).

*Table 5. Strategic field of the industry competitiveness in the Perm region*

| Strategy type | Enterprise | Branch |
|---|---|---|
| Seeking for new niches | Tchaikovsky Textile Company LLC | Textile industry |
| Maintaining the existing level of development | JSC Novomet-Perm<br>Sveza Uralsky LLC<br>JSC Chusovskoy Metallurgical Plant<br>Yugovskoy Dairy Products Factory LLC<br>Prikamsky cardboard LLC<br>Kungursky Meat Processing Plant LLC INCAB LLC<br>Nytvensky Creamery LLC | Metallurgical production;<br>Woodworking industry;<br>Food industry;<br>Production of paper and its products; and<br>Machine building. |
| Potential building | Uralchem Trading House LLC<br>PJSC Metafrax<br>JSC Sibur-Khimprom<br>JSC Bereznikovsky Soda Plant<br>Permtotineft LLC | Production of chemicals and chemical products;<br>Extraction of crude oil and natural gas. |
| Active growth | JSC Er-Telecom Holding<br>Kama Cable LLC<br>JSC UEC Perm Engines | IT industry and communications;<br>Metallurgical production; |

| | | |
|---|---|---|
| | Motovilikha – Civil Machine Building Company LLC<br>JSC Aviation Gearboxes and Transmissions – Perm Motors<br>JSC UEC Star<br>PJSC Perm Scientific-Production Instrument Making Company<br>JSC Solikamskbumprom<br>JSC UEC Aviadvigatel<br>PJSC Proton-Perm Engines | Machine building; and<br>Production of paper and its products. |
| Clustering | Uraloil LLC<br>PJSC Uralkali<br>JSC Gubakhinsky Coke<br>Halopolymer Kirovo-Chepetsk LLC<br>JSC Halopolymer Perm | Extraction of crude oil and natural gas;<br>Mining of other minerals;<br>Production of coke and petroleum products; and Production of chemicals and chemical products. |
| Leadership | Lukoil-Permnefteorgsintez LLC<br>Lukoil-Perm LLC | Production of coke and petroleum products;<br>Extraction of crude oil and natural gas. |

As a result of the generalization of earlier calculations in the table, it can be stated that the following types of strategies remain unclaimed for industry of the Perm region for the period under study: the reproductive type, the promising innovative type, and the type of advancing growth.

The positions of enterprises and sectors in their aggregate can be adjusted depending on the dynamics of the strategic competitiveness indicators. This process requires to determine the directions of increasing the industry competitiveness in the region, depending on the affiliation of industry (enterprises) to a particular type of strategy, which is discussed in more detail in the next paragraph.

## Conclusions

The theoretical and methodological aspects, factors, and trends reviewed above allow to state that the main condition for increasing the strategic competitiveness of branches of industry is to form and develop new tools to integrate the relevant processes into the system of practical recommendations for their implementation, as well as to develop the control, assessment, and responsibility procedures.



The current economic conditions force regional governments to seek for new adaptive forms and methods of increasing the competitive advantages of branches of industry. The areas that ensure strategic competitiveness for a long term are chosen under the influence of various factors and specifics of activity. The dilemma of determining the tasks of the sectoral development by increasing the traditional range of industrial products in the region or curtailing production, replacing or modifying it, maintaining a market segment, or penetrating new niches requires a deep theoretical study and scientific justification.

Strategizing for the industry competitiveness allows the region to identify the priority branches and resource preferences, and form a system of qualitative and quantitative resulting indicators. Strategizing for the competitiveness in a comprehensive and systematic manner is associated with the long-term programming of the industrial policy. The industrial policy is largely aimed at aggregating and building up quantitative indicators of the sectoral activity with reference to time intervals and is focused on the economic growth.

As such, strategizing for the competitiveness reflects the vision of the future, taking environmental factors into account, and is largely described by the qualitative development criteria. This means that it shifts from the traditional decomposition of production parameters for the future to the processes starting from determining the future demanded positioning on the markets. This approach focuses on increasing the level of processes accompanying the industrial development of the region.

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**Footnote:**

1. As a result of the analysis of the key characteristics of the sample using the Kaiser normalization criterion, its quantitative boundary was established as 33.

**Bibliographic references**

1. Akberdina, V.V., Grebenkin, A. V., Smirnova, O.P. (2017). Comprehensive Assessment of Industries Economic Security: Regional Aspect. Ekonomika Regiona-Economy of Region, 13(4), 1264-1279.
2. Akberdina, V.V., Kocherbaeva, A.A., Smirnova, O.P. (2018). Methods for assessment of the economic security level in the region. Espacios, 39(24), p. 8.
3. Akhmetshin, E., Zhiltsov, S., Dmitrieva, A., Plotnikov, A., & Kolomeytseva, A. (2019). The formation of the contemporary renewable energy sector and its role in the industry development. International Journal of Energy Economics and Policy, 9(6), 373-378.
4. Anikin, I.Yu., Lapteva, S.V., Kozlov, A.V., Tamer, O.S. (2019). Dynamics of knowledge acquisition using a synergistic approach in training. Astra Salvensis, 7(13), 299-308.
5. Deryabina, M.A. (2018). Methodological Bases of the Mesoeconomics as a Complex System. Journal of Institutional Studies, 10(3), 30-39.
6. Kirdina-Chandler, S.G., Maevsky, V.I. (2017). Methodological Issues of the Meso-Level Analysisin Economics. Journal of Institutional Studies, 9(3), 6-23.
7. Mitrofanova, E.A., Simonova, M.V., Tarasenko, V.V. (2020). Potential of the education system in Russia in training staff for the digital economy. Advances in Intelligent Systems and Computing, 908, 463-472.

8. Order of the Government of the Russian Federation No. 207-r “On approval of the Strategy for Spatial Development of the Russian Federation for the period through to 2025”. February 13, 2019.
9. Plotnikov, A.V., Kovalenko, K.E., Prodanova, N.A., Noeva, E.E., Astapenko, E.O., Novikova, Yu.A. (2019). Social Entrepreneurship of Persons with Disabilities. Journal of Entrepreneurship Education, 22(S2), 439.
10. Prudskiy, V.G., Demin, G.A., Oshchepkov, A.M., Gershanok, A.A. (2017). Modern Russian and foreign approaches to strategic planning of the regional socio-economic development. Journal of Advanced Research in Law and Economics, 8(2), 570-580.
11. Prudskiy, V.G., Oshchepkov, A.M. (2015a). Management as a Specific Form of Social Control. European Journal of Science and Theology, 11(5), 185-198.
12. Prudskiy, V.G., Oshchepkov, A.M. (2015b). Management as a specific form of social control. European Journal of Science and Theology, 11(5), 185-198.
13. Prudskiy, V.G., Oshchepkov, A.M., Zhdanov, M.A. (2018). The interdependent development concept of technological, economic and management cycles. International Journal of Engineering and Technology, 7(4), 396-401.
14. Semenov, V.P. (2018). Cluster Organization Principles and the Concept of Training Cluster Managers. Proceedings of 2018 17th Russian Scientific and Practical Conference on Planning and Teaching Engineering Staff for the Industrial and Economic Complex of the Region, PTES, 225-228.
15. Smirnova, O.P., Barbakov, O.M., Ponomareva, A.O., Vinogradova, M.V. (2019). Modeling of the innovation activity of Russia’s regions. WSEAS Transactions on Business and Economics, 16(45), 403-413.
16. Smirnova, O.P., Kocherbaeva, A.A., Averina, L.M., Saiakbaeva, A.A. (2019). Industrial region in Russia: Studying the peculiarities of economic specialization. Espacios, 40(27), p. 11p.
17. Vlados, C. (2019). On a correlative and evolutionary SWOT analysis. Journal of Strategy and Management, 12(3), 347-363.