

METHODS FOR ANALYZING REGIONAL ENTREPRENEURSHIP WHILE INCORPORATING SUSTAINABLE DEVELOPMENT PRINCIPLES

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Abstract

This article explores the challenges of assessing local business activity through the lens of sustainability and innovation in success metrics. Current economic realities and environmental challenges have required the adaptation of traditional assessment methods to adequately reflect all aspects of business impact. The study begins with a critical look at outdated assessment approaches that neglect the long-term perspective and focus on immediate economic results. The paper emphasizes that such methods often ignore a wide range of factors, from the social environment to the environment. The author presents a new model of metrics that balance economic progress with environmental and social responsibility. These metrics place a particular emphasis on combining data on business impact on society and the ecosystem, allowing for a more accurate and comprehensive assessment. To implement the proposed model, attention is paid to the need to create information systems capable of collecting, analyzing, and interpreting data according to the new criteria. This will play a key role in providing regional political and economic leaders with the tools to make informed decisions. The article also illustrates how some regions are already successfully applying these metrics, demonstrating significant progress in their approaches to assessing entrepreneurial activity. These examples confirm the potential for achieving sustainability and well-being through the thoughtful application of these approaches. It concludes by highlighting that the shift to assessing entrepreneurial activity with a sustainable development perspective is not only important for the current state of regions, but also contributes to ensuring a better future.

Keywords: entrepreneurial activity, sustainable development, regional level

I. Introduction

There are over 5.7 million small businesses operating in Russia. These organizations form a critically important share of the country's economic structure, defined by the employment of 10 to 100 people and an annual income of no more than 800 million rubles. A comparison with the number of large (13.6 thousand) and medium (17.9 thousand) enterprises emphasizes their special role: the number of small firms reaches 213.8 thousand.

Over the past decade, the Russian small business segment has undergone a profound transformation and has emerged as a leading element of the economic system.

The prosperity and further development of such enterprises are closely linked to a number of conditions - from the economic to the technological situation both in the regions and in the country as a whole. In light of the above, the task of developing and implementing assessment strategies that will help small businesses meet the criteria for sustainable development is becoming more urgent. These approaches have broad potential: they not only ensure the stability of companies,

but also provide tools for monitoring the impact of business processes on the environment and the social environment.

The concept of sustainable development emerged from the awareness of the environmental damage caused by industrialization. A striking echo of this was the London Smog Disaster of 1952, which killed over 12,000 people. This event had a significant impact on the growth of environmental awareness. Then, in 1972, the Club of Rome put forward *The Limits to Growth*, which outlined twelve prospects for global economic development and emphasized the rational use of resources and demographic regulation. The term “sustainable development” gained wide recognition after the publication of the UN report *Our Common Future* in 1987, which defined it as development that does not compromise the ability of future generations to meet their own needs. This document, prepared by a commission headed by Gro Harlem Brundtland, became a milestone in the promotion of global sustainability.

In modern Russia, the key importance of sustainability is relevant for small businesses, for which modernization and sustainable growth are becoming a matter of primary attention. The European Union, where about 25 million small and medium-sized enterprises operate, creating more than half of the bloc’s GDP and providing jobs for almost 100 million people, can be considered a model for Russia. European SMEs are active in solving global problems, including climate change, rational use of resources and maintaining social sustainability.

Assessing the performance of small businesses based on sustainable development criteria helps not only to adapt to the changing market environment in Russia, but also to make a significant contribution to solving global problems, while strengthening the competitiveness of these enterprises.

II. Methods

This study aims to create a proven assessment approach that will enable small businesses to integrate sustainability principles into their strategies and operations. The analysis examined best practices and tools used in this area, including authoritative methodologies such as Acra, Common Sense, and the National Rating Agency, which specializes in ESG principles. In addition, an extensive review of academic literature and online sources was conducted to identify the most significant elements of sustainability.

Previous research shows that adhering to sustainable practices can increase financial returns by 80%, highlighting the critical importance of such strategic business reorientation. In the Russian context, voluntary adoption of ESG standards beyond statutory requirements is observed, highlighting the market’s readiness for deeper integration of sustainable practices.

III. Results

In September 2024 A survey of 4.4 thousand organizations not related to small businesses was conducted. Its results showed that **entrepreneurial activity index**, characterizing the general state of entrepreneurial behavior of organizations, compared to August 2024:

- in extractive industries increased by 0.5 percentage points to 6.2%;
- in the manufacturing sector decreased by 0.1 percentage points to 6.8%.

In September 2023 In 2015, the index of business confidence in the extractive sector of the economy was 2.1%; in the manufacturing sector of the economy – 4.4%.

Entrepreneurial activity index (seasonally adjusted), %

Dynamics of the entrepreneurial activity index , %

	since 2017				
	minimum value		average	maximum value	
	date	meaning	value	date	meaning
Mining	May 2020	-13.0	0.3	June 2018	7.8
Manufacturing industries	February 2017	-10.0	-1.0	June 2024	7.0

	2023				2024								
	Sept.	Oct.	Nov.	Dec.	Jan.	Febr.	March	April	May	June	July	Aug.	Sept.
Mining	2.1	1.7	1.7	2.7	5.2	5.1	6.0	4.0	5.1	7.0	6.7	5.7	6.2
Manufacturing industries	4.4	4.5	6.4	5.1	5.8	5.4	6.1	6.8	6.6	7.0	6.9	6.9	6,8

An example of assessing entrepreneurial activity in the extractive and manufacturing industries demonstrates the importance of monitoring the entrepreneurial confidence index. In particular, significant fluctuations have been observed in these sectors since 2017. For example, the minimum value of the index in the extractive industry was recorded in May 2020 (-13%), which can be explained by the global economic consequences of the pandemic. The maximum was reached in June 2018 (7.8%), indicating economic recovery in the post-crisis period.

In manufacturing, the minimum index value (-10%) was observed in February 2017, which was associated with internal economic problems, and the maximum (7.0%) was recorded in June 2024. Such changes show how sensitive this sector is to external and internal factors.

To better understand the current state of regional economies and identify trends, it is necessary to take into account seasonal and structural fluctuations, as well as external factors such as international sanctions, commodity price fluctuations and changes in global trade.

Developing relevant metrics for sustainable development

Based on traditional methods of assessing entrepreneurial activity, it is necessary to supplement them with indicators reflecting sustainability. Such metrics should be adapted to the specifics of specific industries and regions. The following approaches are proposed for this purpose:

- 1. Integrated sustainability indices :**
Introduction of indices that integrate economic, environmental and social indicators, allowing to assess not only current production activity but also long-term prospects.
- 2. Environmental Performance Indices :**
Develop metrics that measure the impact of production activities on the environment, including emissions, resource use, and waste management.
- 3. Social indicators :**
Assessing the impact of companies' activities on social conditions in the region, including job creation, wage levels, participation in social projects and human capital development.

The study and assessment of existing models demonstrates their value as tools for assessing ESG parameters in the activities of enterprises, with a special emphasis on the comprehensive approach proposed by the Acra methodology. Approaches based on the analysis of the processes of individual companies and their compliance with the set ESG goals are actively considered in the scientific community as some of the most promising for achieving results. The study by Shestakov A.B. and Gusev S.A. presents a comparative characteristic of various methods, most of which are based on economic models, while expert approaches presented by such authors as Shesterikov N.V. also find recognition. It is noted that more than two dozen methods for assessing the sustainability of enterprises are described in the scientific literature. Each of them has its own unique characteristics and requires a separate assessment in terms of practical applicability. The

key features, advantages and possible disadvantages of these approaches are presented in the table for a clear comparison and ease of subsequent analysis.

The small size and flexibility of management in small businesses contribute to their quick response to market trends and ease of testing innovations. This makes a small enterprise an attractive choice for many citizens wishing to engage in entrepreneurial activity. However, in Russia, the practice of highly targeted use of the potential of small firms in terms of their impact on the sustainability and prosperity of both individual regions and the country as a whole has not yet been established.

Small businesses play a crucial role in stimulating the local economy, improving the social environment and addressing political issues. However, businesses in the Far East face serious economic challenges, including high costs, remoteness from economically developed centres, difficult climatic conditions and increased transport costs. This has traditionally made the region dependent on government subsidies, and the reduction of government support only worsens the situation, reducing the competitiveness of local businesses. Ultimately, this leads to the economic isolation of the Far East from the rest of the country.

The situation is critical in the small business sector, where many companies are in the crisis stage of their life cycle. The problems are exacerbated by their dependence on external financing, limited access to capital and ineffective state support. The high cost of capital and problems with securing ownership often lead to the insolvency of small enterprises, which highlights the need for reforms in this sector to improve their viability and support sustainable development.

To overcome the crisis of small business, a new course is aimed at improving state support and improving financial management within companies. In order for small business prosperity to become a reality, state aid measures must be carefully adjusted, and financial strategies must be fine-tuned to improve the overall efficiency of enterprises.

Managers of small businesses face the need to master strategic management skills, including the ability to deeply analyze both the internal and external business environment, find opportunities for development and sustainable progress. Small business should be considered an important component of the country's economic system, requiring development in harmony with national goals. Strategic management of small business has its own nuances and complexities, which is why there is a need to develop theoretical and methodological tools aimed at maintaining and strengthening the stability of this segment. This also involves the selection and adaptation of scientific and practical resources designed to ensure the successful functioning of small businesses.

In modern scientific literature, the issue of forming strategic directions for small business development has been touched upon relatively recently and is inspired by the experience of states with established market economies. The lack of a well-developed structure for supporting small business development at the regional level in modern Russia often leads to inconsistency in development strategies, undermining the potential for sustainable interaction with the country's economy as a whole.

IV. Discussion

In this regard, there is an urgent need for research aimed at establishing mechanisms for sustainable development in small businesses. This is understood as the ability to maintain positive, both qualitative and quantitative, changes in business activity, maintaining viability even under the influence of external changes (state of dynamic homeostasis), which in turn contributes to the economic growth of the Russian Federation, using available resources as efficiently as possible.

Structuring the sustainable development of small business involves the creation of a regulatory framework, the formation of conditions for activating entrepreneurial activity among

the population, and the implementation of priority tasks to stimulate small and medium-sized businesses.

business, as well as the development of methods for assessing the current state and development prospects of enterprises in this sector. Sustainable development can be achieved through competent management and targeted forward movement of the system.

Important economic and social indicators for achieving sustainability in the sphere of small business are highlighted, including: formation of an optimal number of small business structures sufficient to create a critical mass; promotion of economic growth and encouragement of business initiatives; effective and efficient action aimed at fulfilling the set tasks and the most productive use of resources; improvement of the standard of living of both participants in the “small business” system and broader sections of the population.

Transformations in small business and strategic planning of its support pose multiple challenges due to its unique role in the economy. The lack of a comprehensive approach to supporting this sphere undermines the opportunities for sustainable economic development of regions. Therefore, it is important to improve and integrate theoretical and practical experience to create an effective model of sustainable development of small business in a specific area.

Given the importance of small businesses in creating jobs, maintaining competitiveness, and stimulating innovation, it is important to formulate a strategy that is oriented toward adapting to economic changes and challenges. This will allow resources to be used more consciously and ensure the long-term sustainability of small businesses, contributing to the overall economic well-being of regions.

Promoting sustainable development of small businesses requires a clear development of concepts and mechanisms for their implementation in practice, emphasizing the need for active actions to implement the established principles of sustainability. The key aspect here is the transition from a borrowing-oriented to a profitability model that brings positive effects to the whole society. This entails comprehensive state assistance, covering financial, property, insurance and credit support, as well as improving the information and legal framework. The need to improve legislation requires the development and implementation of such key bills as on small entrepreneurship, on investments and on insurance of small businesses, as well as on lending to small businesses.

$$\text{Sustainable development of small businesses} = \int_{t_0}^{t_1} (\alpha C(t) + \beta A(t) + \gamma S(t) + \delta L(t)) dt$$

Where:

- $C(t)$, $A(t)$, $S(t)$, $L(t)$ are functions of time representing the dynamics of concepts, active actions, government support and legislative initiatives.
- α , β , γ , δ – weighting coefficients reflecting the importance of each factor for sustainable development.
- $\int_{t_0}^{t_1}$ – the integral over time from the initial moment t_0 to the final moment t_1 , showing the accumulated effect of all factors on sustainable development over a given period of time.

This formula reflects the influence of various factors (concepts, actions, support, legislation) on the sustainable development of small businesses, taking into account their evolution over time. The integral emphasizes that business sustainability is a process that develops over time, and not a one-time phenomenon.

1.1. Resource efficiency index (I_{res}):

where P_{output} is the output of products (revenue, profit), P_{input} is the cost of resources.

$$I_{res} = \frac{P_{output}}{P_{input}}$$

1.2. Economic growth index (I_{growth}):

$$I_{growth} = \frac{B_t}{B_{t-1}} \times 100\%$$

This formula can be adapted and used to develop a method for assessing entrepreneurial activity at the regional level, taking into account the principles of sustainable development.

Each of the factors in the formula $C(t), A(t), S(t), L(t)$ can be adapted to assess the specifics of regional entrepreneurial activity:

- $C(t)$ — concepts and strategies of regional development. Each region may have its own characteristics that affect the sustainable development of small businesses (for example, access to natural resources, technological infrastructure, transport accessibility).
- $A(t)$ — active actions of entrepreneurs in the region. This may include innovative projects, the number of new startups, and the dynamics of small business development.
- $S(t)$ — regional support. This factor includes support measures provided by the regional government: subsidies, grants, tax breaks, and infrastructure projects.
- $L(t)$ — regional legislative initiatives. Here, one can take into account the peculiarities of regional legislation aimed at developing entrepreneurial activity.

The recognition of the importance of small business as a driver of economic change has led to the desire to deepen the substantive-analytical understanding of its functioning and internal processes. Such analysis aims to activate entrepreneurial resources for the implementation of large-scale economic reforms. Strategically oriented management of small business should be aimed at strengthening the macroeconomic situation in the country and stimulating economic development in each region. Entrepreneurship existing at the local level significantly affects the socio-economic progress of the regions, their stable development is the cornerstone for the dynamic economic growth of the country.

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In the context of reforming the Russian economy, new forms and methods of support are being sought, which increases the importance of government bodies at all levels and determines their role in the country's economic strategy. Assistance to small businesses consists of creating favorable conditions for the independence of citizens and providing support from the state, which will become the basis for sustainable economic growth. The tactics and strategy for developing entrepreneurship include developing government programs, providing investment financing, creating methodologies for assessing and supporting investment projects, and improving the tax

system. Not only the success of individual entrepreneurs, but also the economic well-being of the country as a whole depends on these steps.

Modern small business management will call for innovative methods and the creation of a fundamentally new set of tools. Such tools, based on accurate diagnostics and differences in the operating conditions of small businesses in different regions, should allow for a separate assessment and improvement of the quality of financial management. An important element here will be specific indicators that will track and analyze business activity, profitability and solvency at the enterprise, as well as the possibility of comprehensive rating of enterprises taking into account their development and attractiveness for investment.

Within the framework of the strategy for sustainable growth of small business, special attention is paid to the economic liberalism of citizens, implying their active integration into the entrepreneurial sphere and strict assistance from government agencies. This is the path to consistent strengthening of the country's economic potential. The strategy involves the mobilization and adaptation of entrepreneurial abilities, the adoption of a balanced system of government support measures, the interaction of small and medium-sized businesses, as well as the expansion of foreign economic relations and the strengthening of the positions of small companies both locally and nationally.

The concept is based on a number of key principles:

- Initiative and creative activity of people in the business sphere, transforming material assets into profitable investments, instead of simple rent. This approach is aimed at creating social value and welfare.

- Develop a comprehensive strategy that involves small businesses interacting with the environment and directing limited resources where they can bring the greatest benefit to the regional economy.

- Application of reliable government incentive programs that are comprehensive in nature and take into account the unique features, economic conditions and potential changes in the development of business entities, regions and the country as a whole.

To implement this strategy for sustainable development of small businesses, it is essential to have effective tools to achieve the goals:

1. Develop a comprehensive government assistance program covering legal, financial and material assistance, which will include measures on registration, taxation, lending and protection.

2. Allocation of significant budgetary funds, their direction and monitoring of the effectiveness of investments for the benefit of small businesses, with subsequent assessment of the impact of these investments on the quality of life in the region.

3. Development and application of scientific methods for determining investment objects based on indicators of success and efficiency of working capital use.

4. Improving the legal and informational framework for providing access to economic resources, taking into account the need to focus them on priority tasks and strategic directions.

5. Using specialized approaches to planning and economic analysis, adapted to the unique conditions and characteristics of small business organization.

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