

# Sustainable Supply Chain Design in Social at the Macro-Regional Level

I.V.Takmasheva<sup>1</sup>, A. B. Zelinskaya<sup>1</sup>, L.L. Bogomolova<sup>1</sup>

<sup>1</sup>Yugra State University,

**Abstract-** This work is devoted to the study sustainable supply chain in social enterprises activity at the level of the macro-region. To ensure a comprehensive view, a comparative analysis of foreign and domestic research experience in this area was conducted. Special attention was paid to the practice of assessing the level of business development in the Nordic countries. To select indicators for assessing the level of social entrepreneurship in the region, two groups of criteria were formed: requirements for content parameters describing the state and factors of social entrepreneurship, as well as criteria for instrumental parameters that are designed to provide opportunities for quantitative analysis.

**Keywords-** evaluation indicators, sustainable supply chain, social entrepreneurship, activity factors, development.

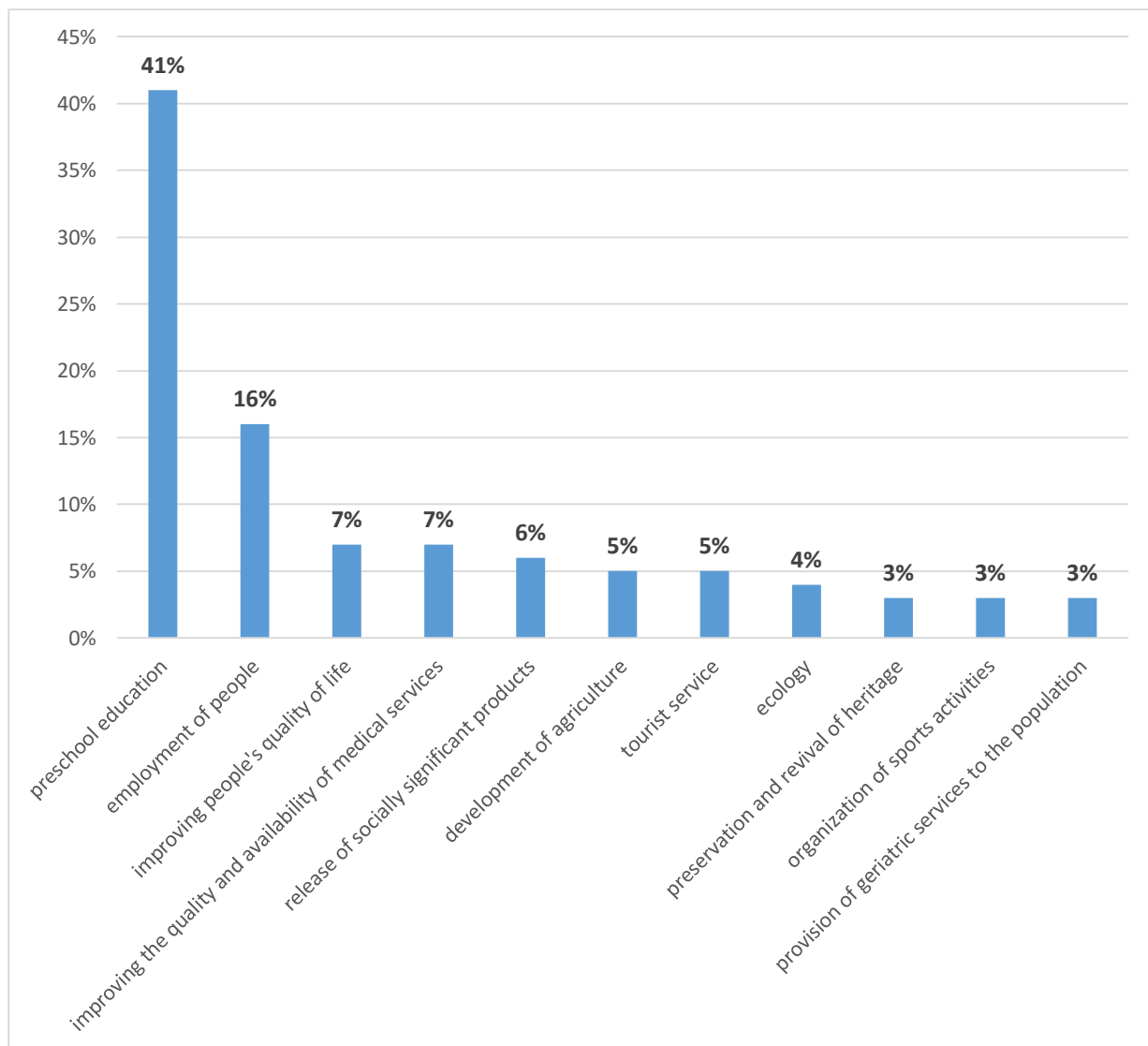
## 1. Introduction

There is a strong indication in supply chain management research that different types of business models exist to balance economic and environmental objectives. The social dimension within these models, however, is largely ignored. The social dimension is defined as “Social sustainability in supply chains addresses issues of social justice and human rights with studies focusing on practices such as supplier human rights actions, labor conditions, codes of practices and social auditing, supplier compliance with child labor laws, and the delivery of social equity through sourcing from diverse suppliers in terms of gender, size,

ethnicity and avoidance of conflicts of interest”. Empirical research on social entrepreneurship is still at an early stage, and theoretical research is more dominant in relation to applied research methods. The review of world practice demonstrates different ways and approaches for selecting indicators for assessing the state of social entrepreneurship at the international, national and regional levels.

Begonja, M. and others point out that there is no single concept of social entrepreneurship due to huge differences in the prevalence of social business, the local regulatory framework, access to financial resources, markets, and training programs [2]. Each state has its own history of formation of the social sector, which largely depends on socio-cultural and economic-political factors [11]. Thus, the overall prevalence of social entrepreneurial activity in the world ranges from 0.5 to 5% of the population aged 18 to 64 years [12] (figure).

In order to obtain detailed results on social entrepreneurship across the world, a project dedicated to international comparative studies of social enterprise models ICSEM was launched in July 2013 [3]. The project brings together about 200 researchers (ICSEM Research Partners) from 50 countries to collect and analyze different models of social enterprises and their ecosystems. ICSEM materials serve as a tool for scientific and political discussion of the prospects for the development of social entrepreneurship [4].



**Figure 1.** Activity direction of social entrepreneurs in Russia in 2014-2018, %

The results of a large-scale international study aimed at studying the factors that influence the emergence and share of social startups in the total number of start-up businesses are presented in the work of B. Hoogendoorn. Based on the data from the Global Entrepreneurship Monitoring report (GEM), the author covers 49 countries of the world [8]. Using regression analysis, we consider the impact of institutional factors and cultural values on the frequency of social enterprises. To build an analytical model, the author used one dependent and four independent variables.

The results of the analysis showed that the most effective and significant factor for social entrepreneurship was public sector spending. B. Hoogendoorn points to a positive relationship between institutional support, favorable institutional conditions, and the share of social startups in the total number of all startups. At the same time, the legislation had less impact.

Littlewood & Holt provides an overview of the social and environmental entrepreneurship landscape in Africa based on data from 270 companies

operating in eastern and southern Africa [9]. The study by Sengupta, S., & A. Sahay is devoted to the prospects and opportunities of social entrepreneurship in the countries of the Asia-Pacific region [10]. The analysis included social enterprises in East, South-East and South Asia, as well as Oceania. In the study, the authors consider contextual, institutional, and personal factors surrounding social entrepreneurship. H. Douglas conducts a systematic analysis of the scale and potential of social entrepreneurship development in Australia and New Zealand [5].

The works of Ahl, H., & T. Nelson, Sepulveda, L., Glänzel, G., & T. Scheuerle are devoted to the problems of social business development in European countries [1]. H. Engelke gives the results of constructing a forecast for the development of social entrepreneurship in developed European countries on the example of Germany [6]. Analysis of the development of legislation on social entrepreneurship in European countries is presented in the M. Wildmannová's article [13].

To achieve the goal of this work, the study by Yoon, H., Yun, S., Lee, J., & F. Phillips is of particular

interest and is devoted to the consideration of social capital as a source of entrepreneurial activity within the framework of the regional innovation ecosystem in East Asian countries [14]. The authors identify structural, relational, and cognitive social capital. Structural capital is formed by an organizational network in which entrepreneurs receive information, support, and resources. If the company is central to the network, it is much easier for the entrepreneur to access resources. Developed structural capital provides more opportunities for obtaining resources. Relational capital determines the degree of trust in people's personal relationships. Cognitive social capital implies social norms, shared meaning systems, and language that facilitate learning, generating new knowledge, and exchanging information between people.

The authors conclude that developing regional supply chain focus more on structural and relational capital, which are oriented "outside" of social capital and serve the broad social goals of society. In contrast, mature entrepreneurial regional innovation ecosystems tend to give equal weight to structural, relational, and cognitive social capital [18]-[21].

Restrictions on structural social capital can be expressed in its concentration, weak communication between universities and local firms, which prevents the creation of new business. The weak presence of cognitive capital in developing regional systems can be enhanced by activating internal social capital and attracting private resources. This "strengthening", according to the authors, is possible when using the "bottom-up" approach in order to make the best use of social capital for regional entrepreneurship. In this regard, more attention should be paid to reducing government interference, increasing the role of

universities, encouraging cooperation between venture investors and local entrepreneurs, and including various types of facilities in the network [22]-[24].

In the context of International Comparative Study of Social Enterprise Models, ICSEM, also models, actors, and ways to institutionalize social entrepreneurship in the social services market in Russia were studied. 45 semi-structured interviews with social entrepreneurs from 7 regions of Russia were conducted for an in-depth study of the activities of social enterprises. The study identified four models of institutionalization of social entrepreneurship, which are based on previous experience, beliefs, perceptions and current interests of the main actors: "social business", "ideal business", entrepreneurial activity of NGO and hybrid organizations with a social mission that combines the features of commercial and non-profit organizations. The first discourse is promoted primarily by the state, the second by business, the third by NGO, and the fourth is determined by the activities of active social entrepreneurs. The leading vector of institutionalization of social entrepreneurship is the first model [16].

A method for a comprehensive assessment of the effectiveness of social enterprises with a set of indicators describing their impact on socio-economic development is presented in the work of A.A. Plyukhina [17].

The results of the above analysis of indicators used for social entrepreneurship research are presented systematically in table 1. According to the data, both survey data and data from secondary sources are used for the study.

**Table 1.** The groups of indicators used for the study of social enterprises

| Level of research      | Report, work, authors   | Purpose of research   | Groups of indicators  | Data collection sources and methods |
|------------------------|---|---|---|-------------------------------------|
| International          | Global entrepreneurship monitor: special topic report on social entrepreneurship  | Comparative study of the prevalence of social entrepreneurship by country   | Prevalence of social enterprises, innovations, social and commercial goals, income, sources of financing  | Survey                              |
|                        | ICSEM (The International Comparative Social Enterprise Models)  | Comparative study of social enterprise models   | Social goals, activities, management structure, institutional conditions, finance and financial model of the enterprise   | Survey, analysis of secondary data  |
| Macro-region           | Hoogendoorn, B. (2016). The prevalence and determinants of social entrepreneurship at the macro level.  | Assessment of the impact of environmental factors on the emergence of startups in social business   | Share of social entrepreneurs, per capita income, public sector expenditures, significance of legislation, public values  | Analysis of secondary data          |
|                        | Begonja, M. at al. (2016). Innovation and business performance determinants of SMEs in the Adriatic region that introduced social innovation. | Assessment of the potential and prerequisites for the development of social entrepreneurship and social innovation in the Adriatic region | Type of product (product or service), export activity, degree of innovation of products and processes of enterprises, financial and commercial efficiency of business | Survey                              |
| National interregional | McMurtry at al. (2015). Social Entrepreneurship in Canada; Moskovskaya A.A., Soboleva I.V. (2016).  | Comparative study of social enterprise models   | Social goals, activities, management structure, institutional conditions, finance, financial model of the enterprise  | Survey, analysis of secondary data  |

| Level of research | Report, work, authors   | Purpose of research  | Groups of indicators  | Data collection sources and methods    |
|-------------------|---|--|---|--|
|                   | Social entrepreneurship in the system of social policy: world experience and prospects of Russia          |  |   |  |
| Regional          | Bogomolova L.L. (2017). Development of social entrepreneurship in the Khanty-Mansi Autonomous Okrug-Yugra | Assessment of state support for social entrepreneurship                                    | Dynamics of the number of non-profit organizations in the region by type of activity, implementation of support in the region   | Secondary data analysis, expert survey |
|                   | Plyukhina A.A. (2016). Improving the methodology for evaluating the activity of social enterprises        | Comprehensive assessment of the effectiveness of social enterprise projects for the region | The degree of social orientation of the project, the degree of influence of the social project on the life of the population, financial security and timing of the social project, the ratio of indicators of socio-economic security of Russia and the specific region under consideration | Survey, analysis of secondary data     |

Source: compiled by the authors.

## 2. Methodology

Indicators that characterize the effect of social entrepreneurship in Russia are already being developed at the national and regional level. In the framework of the state policy in the sphere of socially oriented non-profit organizations (Decree of the Government of the Russian Federation of 27.12.2012, №2553-R of the State program "Social support of citizens"; the decree of the RF Government from 08.06.2016 No. 1144-R Action plan "Support of access of non-governmental organizations to provide social services") includes the following benchmarks:

1. The number of subjects of the Russian Federation, where during the year concession agreements, agreements on public-private partnership agreement on municipal-private partnership in the social sphere are signed (health care, social services, education, culture, sports, objects used for recreation of citizens and tourism, and other socially-cultural objects), units;

2. Number of subjects of the Russian Federation that implement regional programs to support socially oriented non-profit organizations, units;

3. The share of children in private preschool educational organizations in total number of preschool educational organizations, %;

4. Number of non-governmental organizations participating in the implementation of territorial compulsory health insurance programs, units;

5. The share of social service institutions based on other (non-state) forms of ownership of the total number of social service institutions of all forms of ownership, %.

As part of the implementation of the roadmap (Order of the Government of the Khanty-Mansi Autonomous Okrug of April 20, 2018 N 174-RP) to support access of non-governmental organizations (commercial, non-commercial) to the provision of social services in the Khanty-Mansi Autonomous

Okrug – Ugra, the following target indicators are already being tracked and available for analysis at the regional level [15]:

- 1) The share of the district budget allocated to non-governmental organizations, %;
- 2) Provision of tax benefits to socially oriented non-profit organizations (SONO) in accordance with the decisions of the state authorities of the Autonomous district;
- 3) The average amount of the SONO benefit provided when rendering real estate for rent (in percentage points of the total cost), %
- 4) The amount of information support for projects that popularize the activities of SONO, volunteerism, and the work of civil society institutions, units;
- 5) The share of non-governmental organizations in the total number of organizations providing services (including by type of activity), %
- 6) The share of municipal districts and urban districts implementing measures to support SONO, %;
- 7) The share of employees in non-governmental organizations in the total number of employees (by type of activity), %;
- 8) The amount of subsidies provided from the district budget for SONO, million rubles;
- 9) The share of the number of children attending private preschool educational organizations in the total number of children attending preschool educational organizations, %;
- 10) The share of non-governmental social service organizations in the total number of social service organizations of all forms of ownership, %;
- 11) Growth rate of the number of SONO, % compared to the previous year;
- 12) The number of jobs created in the framework of SONO (by type of activity) units;
- 13) The share of non-state (non-municipal) medical organizations participating in the implementation of the territorial compulsory

health insurance program in the total number of medical organizations participating in the implementation of the territorial compulsory health insurance program.

The established practice of empirical research of social entrepreneurs for 2015-2018 allows formulating two groups of criteria for selecting indicators:

1. criteria for content parameters that describe the state of social entrepreneurship on the one hand, as well as factors that affect its activity on the other hand;
2. criteria for instrumental parameters that will provide (or limit) quantitative analysis capabilities.

### 3. Results

Social entrepreneurship is directly focused on creating social and environmental value, which is embodied in a positive change in public order [7]. Supporting the need to create a set of quantifiable indicators of social entrepreneurship, we consider it important to highlight the following instrumental criteria:

- comparability of indicators between different regions;
- chronological comparability of indicators, which allows to analyze their values for a specific time period;
- availability and openness of the data used for analysis;
- universality of the indicator in terms of research goals, which ensures its use not only in assessing the level of development of social entrepreneurship, but also in analyzing the relationship of the social sphere with other economic, environmental and social elements of the environment;
- universality of the indicator in terms of the level of research, allowing it to be used for studying social entrepreneurship at the national and regional levels;
- the ability to use data for aggregate analysis along with other indicators, including for calculating a generalized, integrated indicator of the level of development of social entrepreneurship.

A summary of the content and instrumental parameters for selecting indicators for measuring the level of social entrepreneurship in the region is given in table 2.

**Table 2.** Blocks of indicators for assessing the level of development of social entrepreneurship in the region

| №  | Content parameters describing the state and factors of social entrepreneurship |   | Instrumental parameters of indicators   |
|----|--|---|---|
|    | Block of indicators  | General description   |   |
| 1. | Social capital   | Assessment of the level of education and quality of life of the population, the degree of confidence of residents and businesses in institutional forms of government                         | <ul style="list-style-type: none"> <li>— interregional comparability;</li> <li>— chronological comparability;</li> <li>— data availability;</li> <li>— universality of the indicator for research purposes;</li> <li>— universality of the indicator relative to the level of research;</li> <li>— ability to aggregate data analysis.</li> </ul> |
| 2. | Innovative environment   | Assessment of the volume of investment and the share of investment in the scientific sector, the level of expenditure on technological innovations, as well as scientific personnel potential |   |
| 3. | Institutional support  | Description of financial and non-financial forms of assistance to social entrepreneurs  |   |
| 4. | Effectiveness of social entrepreneurship                                       | Reflection of the actual participation of social entrepreneurship in the regional social sphere   |   |
| 5. | Activity of social entrepreneurship  | Characteristics of socially significant effects of social entrepreneurship  |   |

Source: compiled by the authors.

The above blocks of indicators can be used to describe the state of social entrepreneurship. At the same time, compliance with the instrumental requirement for data selection as “interregional comparability” will reveal the specifics of the studied region relative to other territorial subjects. The indicator parameter “ability to aggregate data analysis” can be used to calculate the overall index. Depending on the scope of the study and the used assessment methodology, such an index can be calculated for several territorial units of the same macroregion for comparative purposes.

### 4. Conclusion

Social enterprise helps its associated micro-entrepreneurs by improving the latter's supply chain operations via: (1) easier access to financial credits; (2) easier access to market information; (3) easier market access; and (4) better access to supplies and raw materials and higher productivity through better health

and equipment. To ensure a comprehensive view and depth of the study, the current practice of determining indicators of social entrepreneurship development was considered. A comparative analysis of foreign and domestic experience in studying the state and factors of activity of social enterprises at the international, macro-regional and national levels for 2015-2018 was carried out. The practice of Northern European countries has revealed the problem of lack of knowledge about business development based on quantitative and comparable data. Therefore, two groups of criteria were selected for selecting indicators for assessing the level of social entrepreneurship in the region: requirements for content parameters that describe the state and factors of social entrepreneurship and criteria for instrumental parameters that are designed to provide quantitative analysis.

For a content description, the following data blocks were selected: social capital, innovative environment, institutional support, effectiveness and activity of social entrepreneurship. The following criteria were defined as instrumental requirements for selecting indicators: interregional comparability,

chronological comparability, data availability, universality of the indicator for research purposes, universality of the indicator relative to the territorial (administrative) level of the study, and the ability to aggregate data analysis.

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