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## The impact of ESG and personal environmental concern on performance of Russian companies

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**Abstract.** The article aims to empirically test the hypothesis on the impact of environmental, social and corporate governance (ESG) practices and employees' personal environmental concerns on the performance of Russian companies. The methodological basis is the theory of corporate social and environmental responsibility embodied in the ESG concept. Exploratory factor analysis and linear regression are used to assess individual factors of corporate responsibility and personal environmental concerns on the ability of companies to perform better, i.e. to achieve their long-term goals. The empirical basis is the survey data of 339 employees of Russian companies. The research results show that strategic aspects of environmental responsibility and corporate governance are strongly connected within a single theoretical framework, while social responsibility of companies and environmental concern can be identified as a separate area of managerial efforts. Originality of the chosen approach is related to the proposed structured questionnaire that reveals various aspects of personal environmental concern and contributes to ESG practices assessment. The conducted regression analysis has demonstrated a positive impact of ESG strategies on the performance of the Russian companies in question, showing that social responsibility plays a decisive role in the ESG formula. Environmental concerns of employees do not have a significant effect on their personal assessment of organizational performance. The authors propose that managers should implement the most relevant ESG practices discussed in this article to sustain high levels of organizational performance.

**Keywords:** environmental, social and corporate governance (ESG); environmental concern; performance; sustainable development; management activities.

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## Влияние ESG и заботы сотрудников об окружающей среде на организационную эффективность российских компаний

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**Аннотация.** Исследование направлено на эмпирическую проверку гипотезы о влиянии практик экологического, социального и корпоративного управления (ESG) и участия сотрудников в решении экологических проблем на деятельность российских компаний. Методологической базой работы выступила теория корпоративной социальной и экологической ответственности, воплощенная в концепции ESG. В качестве методов оценки влияния отдельных факторов корпоративной ответственности и заботы сотрудников об окружающей среде на результативность компаний использовались экспериментальный факторный анализ и линейная регрессия. Эмпирическую основу исследования составили данные опроса 339 сотрудников из 32 российских компаний, проведенного авторами в 2022 г. Согласно полученным результатам, стратегические аспекты экологической ответственности и корпоративного управления прочно связаны с единой теоретической концепцией, тогда как социальная ответственность компаний и забота об окружающей среде могут рассматриваться как отдельное направление управленческой деятельности. Оригинальность выбранного подхода обусловлена использованием разработанной авторами структурированной анкеты, которая позволяет выявить различные аспекты заботы сотрудников об окружающей среде и детально оценить ESG-практики. Регрессионный анализ показал положительное влияние ESG-стратегий на результаты деятельности российских компаний. Социальная ответственность играет решающую роль в формуле ESG. Обнаружено, что забота сотрудников об окружающей среде не оказывает существенного воздействия на их личную оценку деятельности организации. Для поддержания высокого уровня организационной эффективности менеджерам следует внедрять наиболее актуальные практики ESG.

**Ключевые слова:** экологическое, социальное и корпоративное управление (ESG); забота сотрудников об окружающей среде; эффективность; устойчивое развитие; управленческая деятельность.

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## INTRODUCTION

The emergence of the sustainable development concept in practice has significantly expanded the ability of companies to measure innumerable indicators of non-financial performance. From the corporate standpoint, the interests of stakeholders depend on a large number of variables of the company's internal and external environment, which concern not only its financial performance, but also the potential to organize a dialogue between many parties that participate in the value creation process. Patterns of consumer behaviour obviously affect environment, so more and more people express climate concern and moderate their behaviour limiting the amount of resource provision and waste and noting that future development is associated with great uncertainty. Rational ways to manage circular flows of resources [Geissdoerfer et al., 2017; Popova, Strikh, 2021], creation of green investment projects [Indriastuti, Chariri, 2021], and development of green human capital [Shoab et al., 2021] – all these modern phenomena focus on the responsibility of companies outside the boundaries of their production sites. "Green", "circular" and other sustainable measures are the first important step towards eliminating uncertainty and improving performance of manufacturing and service companies in the long term [He et al., 2019, p. 364].

Growing interest in the issues of social and environmental responsibility of companies, first of all, reveals new criteria for measuring the investment attractiveness of companies. Analysis of non-financial indicators shows that shareholders expect companies to sustain growth in the long run, which will be in the interests of not only supply chain participants, but also local and global communities. Due to the intensive use of natural resources and the environment, efforts of individual parties are combined to achieve climate stability, well-being of population and ensure economic growth in the face of severe resource constraints. In order to develop an integrated approach to measure social responsibility and environmental performance of companies under auspices of the system-based corporate management, the concept of corporate environmental, social and governance (ESG) has been proposed, offering alternative ways to measure the long-term success of companies that go beyond financial reporting [De Spiegeleer et al., 2021; Efimova, Volkov, Korableva, 2021; Kaiser, 2020; Sabbaghi, 2020].

Business activities of Russian companies are currently associated with great uncertainty, which is maintained under the influence of geopolitical risks. It is likely that the situation in 2022 will remove sustainable development goals from the strategic management agenda for a long period, denoting a high priority for survival in the face of declining demand and a crisis in global supply chains that have functioned relatively steadily in the past. The complication of the external environment, however, should lead to an update in the understanding of the ESG principles, which ensure the competitiveness of economic agents

even in times of crisis, so this problem will remain relevant in the near future. Despite the fact that the Russian economy is among those with an early-stage ESG framework, national companies are striving to strengthen the credibility of their activities by increasing stakeholder loyalty and thereby reducing the cost of equity capital [Garcia, Mendes-Da-Silva, Orsato, 2017, p. 137]. In this regard, agents of the emerging Russian market are also showing investment behaviour in relation to long-term development priorities, attracting significant resources to projects to modernize production and develop supply chains [Egorova, 2020]. A significant problem is that the results of the ESG agenda implementation are separated from the current financial performance of companies by a long period of time and are associated with uncertainty. Therefore, it is of relevance to examine the impact of individual ESG practices and environmental concerns on the perception of organizational performance by stakeholders.

The purpose of this article is to study empirically the impact of ESG practices and employees' personal environmental concerns on the performance of Russian companies. To this end, it is first necessary to substantiate the internal consistency of hidden theoretical constructions that make up the ESG concept and conduct a regression analysis of their mutual influence on performance. For the purposes of the ESG study, practices are interpreted as a set of principles, approaches and managerial instruments that are implemented by companies to achieve a wide range of non-financial and financial outcomes that contribute to the achievement of sustainable development goals.

## THEORETICAL BACKGROUND

**On the way to the holistic understanding of ESG.** This section discusses three main areas that underpin the theoretical foundation for ESG, as well as the logic of integrating these ideas into the emerging ESG-related management agenda. In addition, we draw attention to environmental concerns as an important variable that shapes the attitude of stakeholders to the issue of sustainable development and their commitment to the ideals of responsible behaviour. Environmental concern is expected to be an important motivator to correct the habitual behavioural patterns associated with the well-known philosophy of consumption and unlimited growth, which will ultimately lead to improved performance of companies.

The ESG concept has been reflected in several important trends that have evolved over the past two decades. Firstly, the UN Sustainable Development Goals have spurred a global non-financial reporting initiative to raise stakeholder awareness of corporate responsibility [Chen, Yang, 2020; Shanaev, Ghimire, 2021]. For example, companies, including Russian ones, are widely involved in non-financial reporting initiative, publishing data on employee training, charity, investments in environmental infrastructure and the development of new management

approaches to ensure harmonious social, environmental and financial development [Kaiser, 2020, p. 35]. Disclosure of material non-financial information in companies' annual reports demonstrates the maturity of management and the ability of corporate governance system to identify and assess risks and make strategic decisions.

Secondly, in the process of investment institutions development, the practice of rating certain ESG aspects has been formed, which increases transparency of the internal environment for investors and, in this regard, makes the allocation of capital less risky [Avramov et al., 2021; Park, Jang, 2021; Shanaev, Ghimire, 2021]. The reduction of information asymmetry contributes to a better understanding of the terms of investment capital transactions. Dorfleitner, Halbritter and Nguyen [2015, p. 452] believe that despite all the efforts made in the field of aggregating data on social and environmental indicators of the largest companies, a significant problem is that individual ESG ratings do not agree on which indicators best characterize the responsible behaviour of companies. ESG can thus be seen as a concept of non-conventional data that gives investors an alternative view of a company's future and market prospects [In, Rook, Monk, 2019, pp. 255–256].

Thirdly, over the past few years, it has become clear that the ESG agenda provides a conceptual framework for bringing together the efforts of hierarchically organized departments of companies in the process of managing social, environmental and financial risks [Arvidsson, Dumay, 2021; De Spiegeleer et al., 2021]. It becomes clear that ESG is seen as a strategic 'shell' for a range of management practices, playing a crucial role along with the mission of the company and its long-term development objectives. In the next section, a literature review is carried out on certain elements of ESG, which individually were a significant part of strategic plans of Russian and foreign companies for a long period.

**The ESG view on corporate social responsibility and environmental management.** The ESG concept draws attention of company management to the investment aspects of financial behaviour related to social responsibility and the environmental footprint of manufacturing. It is assumed that in the process of analysis, potential and current investors screen companies and weed out market players with supply chain contradictions, negative externalities and socially stressful business models that are associated with high levels of operational and financial risk [Dorfleitner et al., 2015, p. 452]. Among the positive signals for the market, one can single out the presence of corporate social responsibility practices that develop the human resources of the local community beyond the boundaries of company ownership. Education, philanthropy, improved working conditions, respect for rights and the creation of human capital are integral components of long-term economic growth, so the signals of such business practices reduce perceived risks and attract additional capital to the company [Dam, Scholtens, 2015, p. 115].

Practices of corporate responsibility of companies towards people have evolved over the past decades, turning into the most complex forms of social partnership aimed at investing in human capital over a long period. The practice of these years has shown that it is especially important to support social programs in regions that exploit their own natural rent, for example, this social paternalism of mining companies is a common phenomenon in Russia and China [Belyaeva, Kazakov, 2015, p. 241]. The theory of stakeholders has been embedded in practice as the most successful instrumental approach to the strategic management of company relations, which allows maximizing value for a wide range of people involved in business activities [Freeman, Phillips, Sisodia, 2020; Valentinov, Hajdu, 2019]. Modern forms of standardization have also provided companies with the principles of ethical management and fixed in practice specific processes of social responsibility [Murmura, Bravi, Palazzi, 2017, p. 1408].

Therefore, we formulate *Hypothesis 1*: within the framework of the ESG concept, it is possible to single out an internally consistent set of social responsibility practices that can be unambiguously identified by internal stakeholders.

The current stage of environmental responsibility development is associated with the formation of a 'green' movement in the economy and politics, which unites the interests of many stakeholders to reach a consensus on the regulation of companies' activities [Indriastuti, Chariri, 2021; Puopolo, Teti, Milani, 2015; Siedschlag, Yan, 2021]. The literature converges on the fact that this approach is highly correlated with the values of the ESG concept in terms of environmental management [Crifo, Forget, Teysier, 2015, p. 169]. Control of the capital movement and allocation of resources is carried out in accordance with the circular logic and the presence of special competencies among manufacturers and financial intermediaries, indicating their ability to reduce environmental impact. All of these environmentally responsible practices contribute to high business performance through the development of a corporate culture that emphasizes the value of conserving resources, choosing reliable suppliers in value creation chains, and reducing hidden and visible production waste, especially greenhouse gases [González-Rodríguez, Díaz-Fernández, Simonetti, 2015; Wang et al., 2019].

Therefore, we formulate *Hypothesis 2*: within the framework of the ESG concept, it is possible to single out an internally consistent set of environmental management practices that can be unambiguously identified by internal stakeholders.

**Modern wave of environmental concern.** The clear impacts of climate change [Yao et al., 2020, p. 104907] and the growing problems with household waste management and recycling [Di Maio, Rem, 2015; Kazancoglu et al., 2020] are clear on the global political and economic agenda. Throughout their lives, stakeholders shape their

attitude to the natural environment, which allows them to make personal decisions and participate in organizational business activities related to environmental responsibility. Climate concern is associated with the inception of psychological behavioural patterns among stakeholders that determine their role, actions and degree of satisfaction in the process of undertaking efforts to reduce waste emissions and using alternative types of resources and energy that are friendly to nature [Cerri, Testa, Rizzi, 2018; Lin, Syrgabayeva, 2016]. People are beginning to sort waste, conserve water, reuse resources and engage in product and real estate sharing networks, join community organizations and donate funds to support them. At the heart of climate concerns are the ideas of limited growth in consumption and the conservation of bioresources for future generations, since they significantly affect the preservation of climate stability. Dramatic climate change is forcing people not only to take personal responsibility for their households, but also to choose employers that run green supply chains [Cousins et al., 2019; Gu et al., 2021].

In turn, investors also support green investment practices, as they expect a steady stream of income from company assets over a long period, and the presence of green competencies often becomes the main key to strategic success in the manufacturing sector [Martin, Moser, 2016; Siedschlag, Yan, 2021]. Thus, from the perspective of ESG, environmental concern does not mainly depend on the emotional state of stakeholders, but is associated with rational expectations of economic benefits in the future. The emotional components of environmental concern, in turn, make people to observe their impact on the climate and the environment in general, by their personal example, so their study is also important for further analysis. Environmental concern is a trigger for action and an additional factor of long-term motivation, it allows people to consciously show investment behaviour in relation to the environment, so the more people are involved in 'green' financial and entrepreneurial networking, the greater the return these efforts bring to the market economy [Herrero-Rada, 2005; Sartzetakis, 2021].

Therefore, we formulate *Hypothesis 3* consisting of two blocks:

3.1) within the framework of the ESG concept, it is possible to single out an internally consistent construct of personal climate concern, which can be unambiguously identified by internal stakeholders;

3.2) internally consistent environmental concern significantly and positively affects the performance of the company.

**ESG management practices and organization performance.** At the corporate level, climate concerns are expressed in the process of strategic analysis and planning, when companies develop a mission and create a set of principles through which they will look at the internal effectiveness of business processes [Arvidsson, Dumay, 2021, p. 3]. Corporate governance aspects related to

ESG focus mainly on the activity of the board of directors, which, through an agency agreement with shareholders, directs the company's strategy towards social and environmental performance [Chen, Yang, 2020]. Therefore, the third component of the ESG formula, namely corporate governance, acts as a link that allows one to integrate the disparate efforts of company departments to achieve sustainable results in the field of responsible behaviour.

Previous research on the impact of individual ESG practices, in particular, information disclosure and the organization of related business processes, shows a positive impact on company performance in two significant ways. Firstly, disclosure of ESG is seen as an opportunity to influence the investment attractiveness of companies and change the cost of equity capital [Arvidsson, Dumay, 2021; Botosan, 2006; Efimova, Volkov, Koroleva, 2021; Gelb, Strawser, 2001; Kelchevskaya, Chernenko, Popova, 2017; Ng, Rezaee, 2015]. Kelchevskaya et al. [2017, p. 165] show that the disclosure of information on various aspects of social responsibility is associated with a decrease in the cost of equity capital of Russian companies, that is, it has a positive effect on attracting financial resources. Botosan [2006, p. 32] notes that certain types of disclosures about ESG increase shareholder information and reduce perceived risk. Gelb and Strawser [2001, p. 2] also note that companies are more motivated to disclose social responsibility in anticipation of investment inflows. In contrast, in their empirical study Atan et al. [2016, p. 369] do not find a direct positive relationship between ESG disclosures and financial performance of companies, believing that any companies, regardless of their performance, are under legal pressure to disclose information. Utz [2019, p. 504] believes that information about ESG is controversial and does not lead to uncertainty in the company's financial and operating results, since environmental and social investments are associated with high risk.

Secondly, ESG practices make it possible to support the company's functional strategies related to environmental and energy management, and to concentrate additional company resources on social and environmental responsibility. A meta-analysis of publications by Tsai, Huang and Chen [2020, p. 558] on the impact of ESG practices on performance showed that the importance of ESG only grows over time, as more and more investors come to the investment markets, clearly demonstrating their interest in the long-term environmental and social results of companies. ESG practices provide additional operational and strategic opportunities for the company, which allow them not only to increase productivity, but even to enter new international markets. However, in practice, the implementation of ESG is also associated with uncertainty. Efimova, Volkov and Koroleva [2021, p. 94] on the example of Russian companies show that ESG-orientation does not distinguish them in terms of profitability and performance from their competitors. Boakye et al. [2021, p. 124034] prove that there is



a U-shaped relationship between environmental management practices and company performance. This means that companies first invest in the development of ESG practices, diverting their own resources to accountability management, and only then get a return on investment. In this regard, companies should focus on the long-term effect of implementing ESG practices.

Therefore, we formulate *Hypothesis 4* consisting of four blocks:

4.1) within the framework of the ESG concept, one can single out an internally consistent set of corporate governance practices that can be unambiguously identified by internal stakeholders;

4.2) social responsibility practices, which are consistent latent theoretical construct within ESG, significantly and positively affect the performance of the company;

4.3) environmental management practices, which are consistent latent theoretical construct within ESG, significantly and positively affect the performance of the company;

4.4) corporate governance practices, which are consistent latent theoretical construct within ESG, significantly and positively affect the performance of the company.

## METHODS AND DATA

In this study, we test two types of hypotheses. The first type refers to the determination of the unambiguous and internally consistent theoretical constructs that relate to certain aspects of ESG. For these purposes, exploratory factor analysis is applied. Exploratory factor analysis aims to determine the underlying theoretical constructs by freely rotating the factors, without fixing the variables within the factors. This is a method of exploratory theoretical analysis that needs to be interpreted consistently in accordance with a set of factors. As variables for analysis, individual statements in the questionnaire concerning the topic of the study are proposed, on which respondents are asked to express their degree of agreement. Questions and statements are rated on a Likert scale from 1 to 5, where 1 means that the respondents strongly disagree with the statement, and 5 means they completely agree. The questionnaire also contains closed-ended questions

on the problems of corporate responsibility management and acquaintance of respondents with the ESG concept in practice.

The second type of hypotheses refers to testing the relationship between individual factors confirmed at the previous stage of the exploratory analysis. To test these hypotheses, we use the linear regression method, where the variables are the average values of the entire set of variables for observations within each individual factor. The model for hypotheses testing is specified as follows:

$$\text{Performance} = a_0 + a_1 \times (\text{Social responsibility}) + a_2 \times (\text{Environmental and corporate governance}) + a_3 \times (\text{Personal environmental concern}) + a_4 \times (\text{Dummy control variable: type of company's market}).$$

The coefficients ( $a_0, a_1, a_2, a_3, a_4$ ) are estimated by the least square method, which assumes the presence of a normal distribution of the obtained data. The linear regression method allows not only evaluating the contribution of each variable, but also determining the relative importance of the influence of each factor on the performance of companies. The dependent variable in the two considered models is performance, which is also a factor estimated by several explicit variables included in questionnaire. The independent variables are related to ESG practices and personal environmental concern. Company size acted as a control variable in the proposed models.

The empirical basis of the study are the results of a survey of employees in Russian companies. The initial sample is 520 respondents, of which 339 completed questionnaires are received (see Appendix). Obtained results corresponds to a 65 % response rate and are considered to be adequate. The survey involved employees from 32 Russian manufacturing and service companies, as well as public administration organizations operating in the Khanty-Mansiysk Autonomous Okrug, Tyumen and Sverdlovsk oblasts. More than a third of all respondents are employed in companies in the manufacturing sector, and about a third of all respondents are representatives of the service sector, the rest of the answers are distributed between the fields of information processing, transport operations and public administration (Fig. 1).

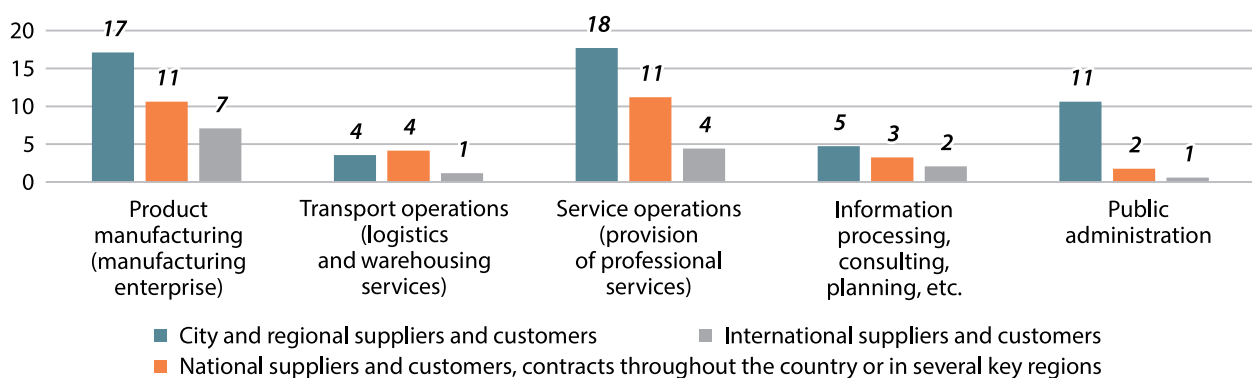


Fig. 1. Structure of the sample of respondents by areas of companies' activity and the size of the markets in which they operate, %

Рис. 1. Структура выборки респондентов по сферам деятельности их компаний и размеру рынка, %

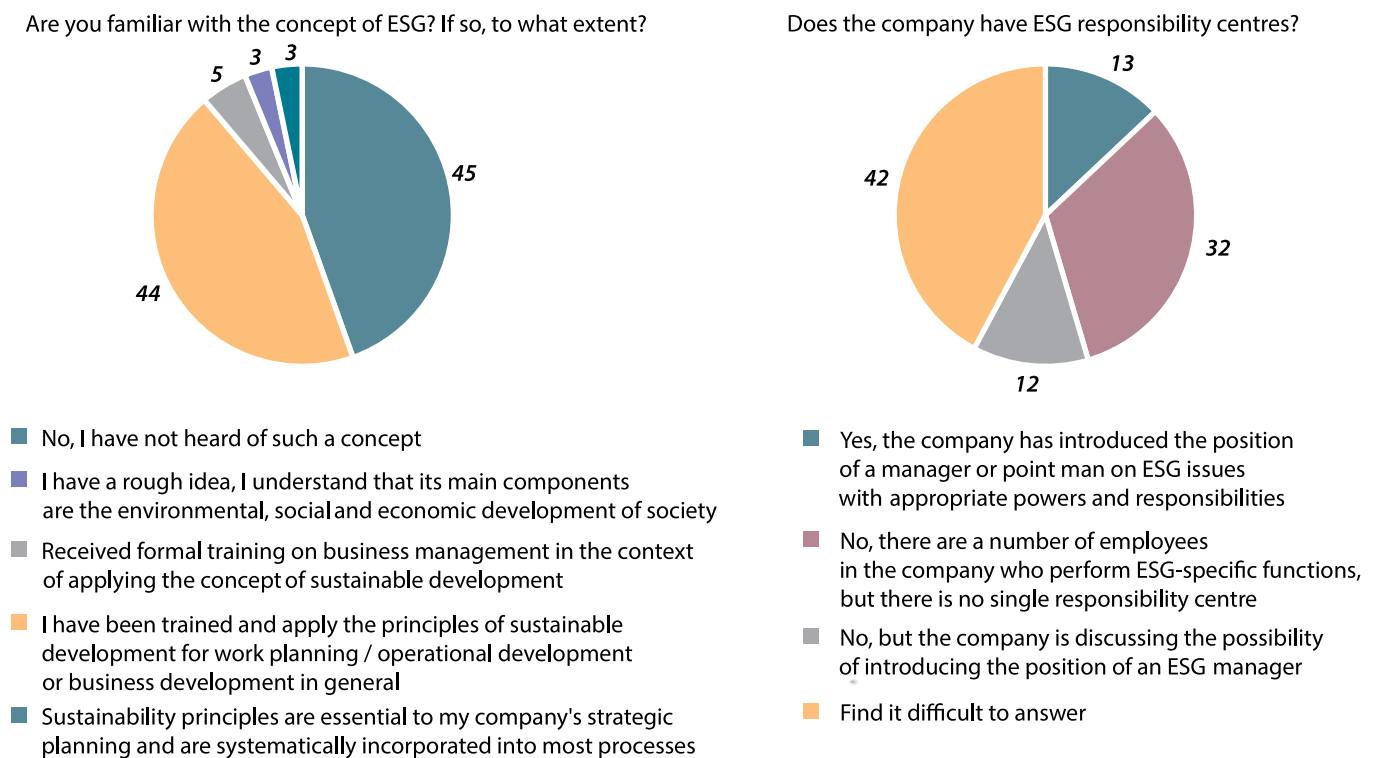
## RESULTS AND DISCUSSION

The first section of the questionnaire included questions that related to the respondents' familiarity with the concept of ESG in theory and practice. The second question clarified the presence of responsibility centres for ESG practices in the organizational structure of the company. The distribution of responses (Fig. 2) showed that the majority of employees have no idea (45 %) or have a limited understanding of the concept of ESG in practical terms (44 %). At the same time, 42 % found it difficult to answer whether there was an ESG responsibility centre in their company. Therefore, in the further research strategy, questions are used that suggest that ESG is a complex, multicomponent structure, which consists of three key areas: social responsibility, environmental and energy management, and corporate governance. All of these areas tend to be familiar to respondents, as companies invest heavily in environmental infrastructure, energy efficiency, philanthropy, community well-being, and staff development.

The second section of the questionnaire also contained a series of questions that clarified certain aspects of ESG in practice that were familiar to respondents based on normal operational activities. In particular, we ask employees what steps should be taken to disseminate ESG values in the daily activities of companies (Fig. 3). When answering the question, respondents are offered nine answers, of which only three have to be selected. A sig-

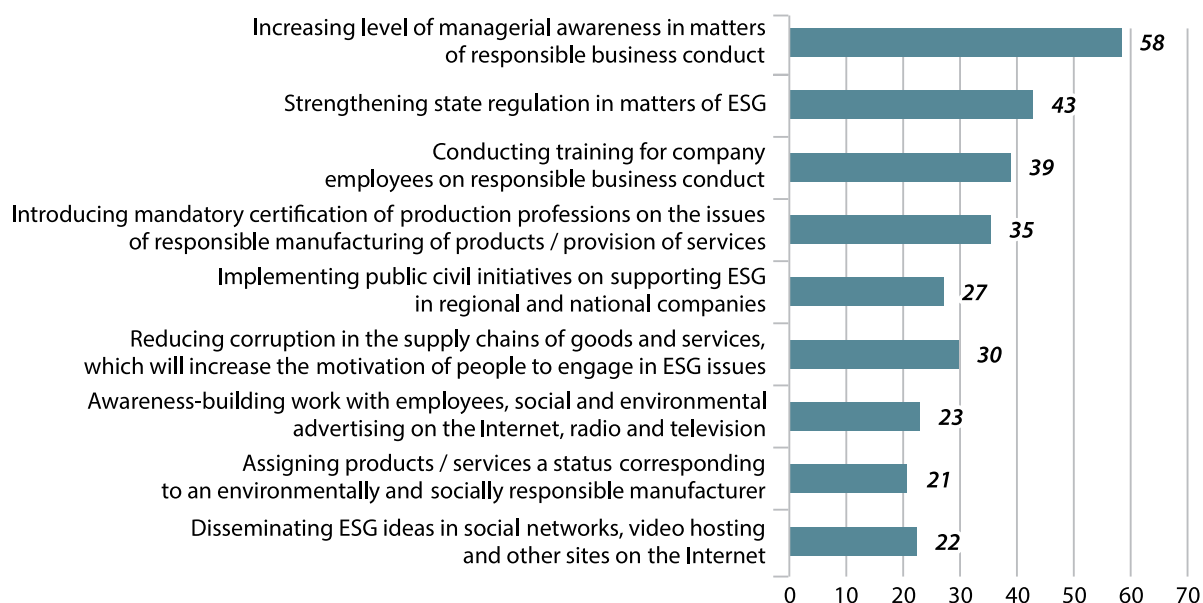
nificant proportion of the people surveyed (58 %) noted that increasing the attention of the management to the problems of integrating social, environmental and corporate responsibility contributes to promotion of values inherent in the concept in practice. A smaller number of respondents believe that increased government regulation and the introduction of standardization can positively affect the problems of implementing ESG in practice. The least popular ways are spreading information on social media and the Internet, as well as labelling products as involved into a responsible supply chain. Probably, these results are primarily related to the importance of environmental and social responsibility regulation in Russian companies, when management and local authorities should promote the values of responsible consumption of resources and offer solutions to increase the return on investment in these areas.

The third section of the questionnaire contained questions revealing implicit variables. Respondents are asked to rate these questions on a scale from 1 to 5, expressing the degree of agreement with the statements presented that characterize the activities of their companies. All questions that we use for factor analysis are presented in Table 1. To test hypotheses, only those questions are selected where factor loadings (L) exceed threshold 0.5. For all factors, Cronbach's alpha ( $\alpha_C$ ) is also assessed, and we verify that removing any items with a factor loading greater than 0.5 from the questionnaire do not increase



*Fig. 2. Distribution of answers to questions on respondents' familiarity with the ESG concept, as percentage of the total number of company employees surveyed*

*Рис. 2. Распределение ответов респондентов на вопросы об их осведомленности о концепции ESG, % от общего числа сотрудников компаний*



**Fig. 3. Distribution of answers to the question: "What factors can influence the development of ESG in an organization?" as percentage of the total number of company employees surveyed**

**Рис. 3. Распределение ответов на вопрос «Какие факторы могут повлиять на развитие принципов ESG в организации?», % от общего числа сотрудников компаний**

*Table 1 – Results of factor analysis for the selected variables*

*Таблица 1 – Результаты факторного анализа выбранных переменных*

Variable label	Factor	Mean	SD	L	aC
The environmental responsibility policy is regularly updated and reviewed	ENV Corporate governance and environmental management	3.47	1.16	0.802	0.97
The company makes important strategic and operational decisions to reduce environmental pollution		3.55	1.15	0.782	
The company annually introduces innovative solutions that correspond to green initiatives and increase environmental responsibility		3.45	1.24	0.780	
The company has developed and implemented a policy to cooperate with responsible suppliers, ESG is carried out throughout the supply chain		3.57	1.14	0.763	
Management pays due attention to climate change and the use of alternative energy sources and other key resources		3.46	1.23	0.761	
The company monitors carbon dioxide emissions throughout the supply chain, regularly monitors the carbon footprint		3.30	1.29	0.756	
The board of directors of the company has competence centres, necessary knowledge and experience on environmental and social responsibility		3.64	1.13	0.746	
The company introduced a position for environmental and social responsibility, which is provided with an appropriate level of authority and experience		3.65	1.22	0.745	
The company's development strategy involves the strengthening of production methods focused on the reuse of resources		3.55	1.16	0.741	
Managers regularly report to directors on the environmental responsibility and social safety of the company		3.63	1.16	0.740	
The company makes every effort to comply with international, national and local requirements of environmental regulators		3.61	1.09	0.739	
The company has a consistent policy regarding environmental responsibility and environmental protection		3.62	1.11	0.720	
Issues of environmental and social responsibility are included in the agenda and are regularly discussed by the company's board of directors		3.62	1.14	0.720	
Heads of departments are regularly trained on corporate social and environmental responsibility		3.65	1.14	0.703	
The company publishes external reporting on the management of social and environmental responsibility, which is available to all stakeholders		3.59	1.20	0.691	
In matters of corporate governance, the principles of independence in decision-making and collegiality in ensuring social and environmental responsibility are observed		3.69	1.11	0.668	
The company has been certified according to standards that consider the principles of environmentally responsible production management	3.77	1.13	0.662		

Table 1 (concluded)  
Окончание табл. 1

Variable label	Factor	Mean	SD	L	aC
The company has no serious complaints, litigation regarding violations of labour protection, health and social welfare of employees	SOCIAL Social responsibility	3.87	1.12	0.714	0.95
All employees in the enterprise have entered into a formal employment contract with the company, which ensures proper working conditions		4.04	1.05	0.705	
Management and employees carefully monitor accidents and incidents at work that have a direct or indirect negative impact on the health and well-being of employees		3.87	1.06	0.701	
In general, I can say that management carefully listens to the initiatives, issues and problems of employees related to their social well-being		3.82	1.08	0.668	
When attracting external parties (outsourcing), the company respects all the rights of external employees properly, on an equal basis with full-time employees		3.92	0.99	0.631	
Management makes every effort to regularly review the wage indexation policy and improve employee welfare		3.76	1.09	0.577	
The company adheres to the policy of raising wages above the average level for the industry / region as part of the personnel management policy		3.81	1.09	0.575	
Existing approaches to management provide equal conditions for all groups of employees, regardless of their professional skills, gender, position, etc.		3.92	1.01	0.575	
The company has a formalized policy on social stability and development		3.75	1.09	0.570	
Workplace health and safety management issues are dealt with consistently and systematically		3.82	1.01	0.560	
The company has implemented a consistent policy against any discrimination, which is highly effective		3.86	1.07	0.552	
A register of risks associated with the development of personnel and their health capital is maintained		3.74	1.09	0.544	
The company has implemented a formalized operational management system that considers the risks to the employee well-being		3.75	1.04	0.520	
The company rarely uses the services of external parties (outsourcing) for the maintenance of internal processes and prefers to hire its own employees		3.73	1.02	0.512	
The company has licenses, approvals and documentary evidence necessary for the responsible conduct of business		3.99	1.03	0.510	
The company does not use migrant labour or seeks to use it to a lesser extent, ensuring proper conditions and full respect for human rights		3.89	1.08	0.509	
I mainly consume organic food, as well as seasonal products that cause less harm to the environment during production and processing	ENV_CONS Environmental concern	3.56	1.12	0.750	0.88
My personal consumption is focused on the primary purchase and use of products that inspire trust from an environmental and social point of view		3.97	0.92	0.705	
I prefer household chemicals and home care products that have the lowest possible impact on the environment		3.69	1.09	0.693	
I sort household waste in my household, putting at least plastic and batteries, as well as other hazardous materials in separate containers		3.37	1.25	0.688	
I often express concerns about climate change in person or on social media		3.43	1.26	0.656	
I express my concern about waste recycling on a regional scale		3.70	1.18	0.626	
I demonstrate willingness to share knowledge and information on environmentally and socially responsible consumption		3.88	1.06	0.593	
I approach the consumption of tap and drinking water responsibly, the use of natural water sources, I do not waste water in vain		4.22	0.93	0.512	
We successfully solve the tasks assigned to us by the management	PERFORM Performance	4.07	0.95	0.732	0.90
People are generally satisfied with the work of the company: conditions and remuneration, career prospects		3.89	1.02	0.673	
In the company, we adhere to an innovative approach: at least once a year we introduce new technologies and offer system solutions		3.79	1.03	0.647	
We manage to detect significant errors in the work of the department in time, propose and implement a plan to eliminate them		3.89	0.99	0.603	
I believe that our company works efficiently, manages resources and expends them wisely		3.90	1.04	0.579	

Note: The results of the authors' calculations using IBM SPSS Statistics 20 based on the survey data are shown. The questionnaire is developed by the authors based on the literature review.



this measure of consistency. The Kaiser-Meyer-Olkin (KMO) sample adequacy measure is used to assess the acceptability of the factor analysis results. The obtained value of 0.963 indicates the adequacy of the obtained results. Bartlett's sphericity test shows whether correlations between selected variables differ from zero. The estimated statistical significance of less than 0.05 indicates that factor analysis is acceptable. In general, factor analysis accounts for 68.6 % of the total variance among the variables considered, which we believe to be an acceptable result.

The findings show four factors among the selected variables, although we initially expected to see five factors (social responsibility, environmental responsibility, corporate governance, personal environmental concern, and performance). The statements that are initially included in the questionnaire sections of corporate governance and environmental management could not be distinguished within the framework of factor analysis. It is likely that the results obtained are due to the complexity of these theoretical constructs and the high correlation of the variables that essentially constitute them. Environmental responsibility issues have always been one of the central topics for Russian companies in terms of corporate governance, as the risks of sanctions and payments for harmful substances emissions into the environment are increasing. The practices of introducing green initiatives, which have historically developed in Russian companies, are in line with their long-term development strategies, therefore, over the years, boards of directors have created competency centres necessary for the exchange of knowledge and experience on corporate responsibility issues. In addition, a significant number of variables in the original questionnaire could also make it difficult to distinguish between the two considered factors. The factors of effectiveness, environmental concern and social responsibility show the greatest stability. Social responsibility, according to the respondents, implies, first of all, the conclusion of formal contracts with employees (the average value of the variable is 4.04), as well as respect for the rights of employees (the average is 3.92). Environmental concern is revealed to a greater

extent through personal consumption and saving resources.

After the variables included in the factors are specified, the arithmetic mean is calculated for each factor, and then the Pearson correlation coefficients are estimated to determine the relationship between the selected factors (Table 2). Respondents rate the performance of their companies quite highly, to a lesser extent this applies to issues of corporate governance and social responsibility. Correlation analysis showed that social responsibility is more related to performance (Pearson's correlation coefficient is about 0.8), in addition, corporate governance and environmental responsibility also show a strong relationship with the performance factor (Pearson's correlation coefficient is more than 0.7). In this case, performance reflects the ability of employees to successfully solve the tasks set by the management and other stakeholders. In addition, in order to measure performance, companies must achieve high employee satisfaction, manage resources effectively, and plan activities to reduce the impact of uncertainty.

To determine the mutual influence of the variables on performance within the integrated ESG model, a regression analysis is performed (Table 3).

The results obtained allowed us to explain more than 60 % of the variance in the performance variable, which we consider to be an acceptable result. In addition, the number of variables for analysis is adequate in terms of sample size. The first proposed model includes a control variable, namely, whether the company has operations in international markets. In the first model, we also add a factor of personal environmental concern. In the second model, only the variables that form the basis of ESG practices are considered. An assessment of the coefficients' significance allows us to conclude that the control variable and environmental concerns, contrary to expectations, do not make any contribution to the changes of the overall organizational performance. It is likely that this result is obtained due to a more complex relationship of variables, when personal environmental concern is only an intermediary in the perception of the overall results of the company, without directly affecting it. An analysis of differences in standardized regression coefficients al-

Table 2 – Results of correlation analysis  
Таблица 2 – Результаты корреляционного анализа

Factor (variable name and label)	Descriptive statistics		Pearson correlation coefficients			
	Mean	SD	PERFORMANCE	ENV_CONS	SOCIAL	ENV
PERFORM Performance	3.91	0.85	1	0.397*	0.794*	0.725*
ENV_CONS Environmental concern	3.73	0.81	0.397*	1	0.468*	0.504*
SOCIAL Social responsibility	3.84	0.82	0.794*	0.468*	1	0.801*
ENV Corporate governance and environmental management	3.58	0.97	0.725*	0.504*	0.801*	1

Note: (\*) significant at the level less than 0.01. The results of the authors' calculations using IBM SPSS Statistics 20 based on the survey data are shown.

Table 3 – Results of regression analysis  
Таблица 3 – Результаты регрессионного анализа

Variables	Model 1 (control)			Model 2		
	b	t	B (std)	b	t	B (std)
Constant	0.770	5.03*	–	0.756	5.77*	–
ORG_INTER International markets	0.036	0.47	0.015	–	–	–
ENV_CONS Environmental concern	–0.008	–0.21	–0.008	–	–	–
SOCIAL Social responsibility	0.618	10.97*	0.595	0.616	11.05*	0.593
ENV Corporate governance and environmental management	0.221	4.51*	0.251	0.221	4.66*	0.250
R <sup>2</sup> (adjusted)	64.8 %			65.0 %		
F statistics	156.9*			315.2*		
Durbin-Watson statistics	1.81*			1.81*		
Number of observations	339			339		

Note: (\*) significant at the level less than 0.01. The results of the authors' calculations using IBM SPSS Statistics 20 based on the survey data are shown.

lows us to conclude that, according to the respondents, the greatest contribution to the company's performance is made by the indicator of corporate social responsibility, while corporate governance and environmental management in the company play a relatively smaller role in supporting performance.

## CONCLUSION

The ESG concept is a cornerstone in supporting the long-term sustainable development of modern companies, providing investment attractiveness to a wide range of investors interested in the social and environmental performance of enterprises. Clearly, ESG is fundamental to internal stakeholders such as employees: they have the ability to observe the internal processes that support corporate business strategy and evaluate its resilient performance in terms of innovation, financial effectiveness and resource efficiency. In this study, we, firstly, check the presence of a holistic and consistent ESG concept in the practice of companies, and secondly, we determine its impact on performance.

**Conclusions on hypotheses testing.** With regard to the integrity and consistency of the factors constituting ESG, the following conclusions can be drawn. The results showed that Hypothesis 1 is accepted because the empirical evidence does indeed indicate an internally consistent set of social responsibility practices that can be uniquely identified by internal stakeholders. Social responsibility is measured in the context of the practice of providing social guarantees, equality and concern for well-being, attentive attitude of management to internal opportunities for contradictions regarding the training and development of employees and maintaining their well-being.

Hypotheses 2 and 4.1 are rejected because the study fails to confirm internally consistent theoretical constructs of environmental responsibility and corporate governance, which would be separate variables in the analysis. Instead, the variables that make up these constructs have

been combined into a single factor that embodies the board's efforts to maintain environmental responsibility and the existence of practices for implementing and deploying environmental policies to track the company's climate footprint. It can be noted that the result obtained does not deny the presence of ESG as a whole, perhaps on the one hand it is due to the design of the study (the presence of many variables in factor analysis, each of which reveals individual aspects of ESG), and on the other hand, the complexity of the phenomena under consideration and close connection of principles and approaches in the work of the board of directors and company's efforts to maintain environmental and climate sustainability.

Hypothesis 3.1 is accepted because the exploratory analysis confirmed the presence of personal climate concerns as a holistic and consistent factor. People tend to highlight, among other variables, their propensity for a certain style of resource consumption (wasteful or careful), waste behaviour and environmental protection measures. In this regard, company employees directly demonstrate the desire to express their attitude to the problem, which can positively affect their personal motivations and motives for responsible consumption.

As for the influence of individual ESG factors on the performance of companies, we can come to the following conclusion. Hypothesis 3.2 is rejected because the company's performance is not influenced by respondents' personal climate concerns. The consumption of 'green' goods and other aspects of personal behaviour in the economy, although they allow achieving the required level of reflection on sustainable development and climate change, are not directly related to the subjective assessment of the organizational performance. To a greater extent, this indicator correlates with the perception and personal assessment of the efforts in the field of environmental responsibility.

Hypotheses 4.2, 4.3 and 4.4, on the contrary, are accepted. Social responsibility is positively associated with

performance. The social activity of companies is traditionally perceived as an important prerequisite for increasing employee engagement and achieving high business results. Environmental responsibility, combined in one framework with corporate governance, also positively affects the perception of the organizational performance by respondents. Despite the fact that it is not possible to separate environmental responsibility into an isolated factor, we believe that such a result is associated with the positive contribution of the company's efforts in the field of environmental management on achieving high operational results.

**Theoretical and practical implications, limitations and further research.** The results are of theoretical significance, since they allowed us to generally confirm the consistency of the main activities that are typical of ESG and indirectly judge their positive impact on the company's performance. The relevance of the ESG agenda is not only from a conceptual or normative point of view: usually, company managers naively assume that this is a necessary area for effort and investment of resources and time. It is very important to show its positive role, that is, to conclude that the stakeholders really have consistency in their thinking, perception, and sustainable tools and practices to achieve the goals of long-term sustainable development, although the ESG concept does not have an explicit expression in their cognitive frame of reference.

The results obtained can be used in the practice of Russian companies. Firstly, it is possible to confirm that efforts in the certain aspects of ESG are indeed highly correlated with improving the performance of companies, their ability to use resources efficiently and meet the tasks set by management on time. Secondly, due to the fact that many Russian companies are seriously creating an ESG agenda that would support internal business processes, confirmation of the role of individual practices of social and environmental responsibility in the perception of performance can justify the organizational efforts and

focus managers' attention on sustainable development issues in the era of significant global climate change of man-caused nature. Thirdly and finally, the boundaries, integrity and consistency of individual variables within the framework of the ESG concept are confirmed, which indicates its high compliance of ESG with the practice of enterprises.

The limitations of the study are largely dependent on the chosen methodology of analysis. The results obtained highly influenced by the ability to interpret factors depending on the semantic content of the variables that constitute them, since factor analysis is a statistical procedure that means nothing in relation to semantics. When evaluating the factors, a sufficiently large number of variables are selected, which could also affect the insignificant overestimation of the Cronbach's alpha. In the regression analysis, the average values of the variables in the factor are used, which generalizes the results obtained and ignores the factor loadings that are calculated. This may affect the balance of individual variables in the formation of the final mean value, because our model assumes that all factors contribute equally. In addition, the assessment of performance and individual practices in the approach we have chosen is subjective, based on the personal assessments of the respondents. Unlike financial performance indicators, however, the proposed approach allows for a more detailed and deep connection of the phenomena under study with the organizational context and its personal perception among internal stakeholders.

In further research, it is necessary to determine the role of environmental concern as an intermediary between the environmental and social performance of the company and the overall efficiency of its business processes. It is also necessary to consider the impact of individual practices that form the basis of the ESG agenda on the organizational financial performance and its investment attractiveness. ■

*Appendix – Primary data and questionnaire*  
*Приложение – Первичные данные и анкета*

The questionnaire is available on stable URL: [https://docs.google.com/forms/d/e/1FAIpQLSe\\_Qbnh4f9c2PYap-mUFDDrJxXr\\_hAck\\_lvSBveMV9rl7N53Hg/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSe_Qbnh4f9c2PYap-mUFDDrJxXr_hAck_lvSBveMV9rl7N53Hg/viewform?usp=sf_link) (in Russ.)

The primary data used in the article are given at stable URL: [https://drive.google.com/drive/folders/19M31-pL8Slo4Aplyp\\_-t5bvk2Rs5B0Ka?usp=sharing](https://drive.google.com/drive/folders/19M31-pL8Slo4Aplyp_-t5bvk2Rs5B0Ka?usp=sharing) (in Russ.)

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