

Human capital priority: ESG – oriented strategy for managing economy

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Abstract. In the contemporary world of continuous fluctuations, the stability of multilevel economic trends is largely determined not only by financial, but also by social performance. This trend is reflected in the formation of ESG – oriented economic management strategies. The research substantiates the priority role of the human capital reproduction policy in the system of strategic management of ESG – oriented trends in the new economic realities. The objective of the paper is to identify the key components of a human capital development strategy to achieve progress-enhancing ESG benchmarks. The research methodology provides for a comprehensive analysis of the impact of the new economic conditions on the multi-level system of HR management, a substantiation of expert econometric toolkit providing parameterization of the human capital reproduction strategy, as well as for the identification of the benefits associated with the introduction of human-oriented principles of sustainable management at all levels. The result of the study is methodologically substantiated and empirically verified components of the strategy for the reproduction of human capital in the management system of sustainable innovative development of the economy. It is substantiated that in the conditions of the new economic realities, the systemic algorithm of strategy formulation should be multi-level, which guarantees an endogenously consistent objective analysis of strategic measures in terms of achieving ESG benchmarks. The requirements for the ESG toolkit for evaluating strategic decisions at various levels of the management system have been formulated, as well as recommendations for economic actors on using the ESG toolkit were justified.

Keywords: Human capital · ESG – oriented management strategy · Socio-economic trends · Sustainable development · Fluctuations.

1. Introduction

The current ESG agenda in the contemporary conditions brings to the fore the policy of reproduction of human capital – the basic asset, accumulation of which plays a key role in the process of innovative development of the economy and society. The dominant angle of view on the problem of sustainable reproduction of human capital lies in the dynamic transformation of the multi-level management system through the introduction of innovative digital technologies aimed at achieving progress-promoting ESG benchmarks. The aim of this study is to identify the key components of the human capital development strategy that contribute to the achievement of these benchmarks.

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An analysis of academic sources shows that sustainable management of socio-economic trends, focused on ESG standards, is being studied both at the macro-level (Sciarelli et al., 2021; Zhou et al., 2021), and at the meso- and micro-levels of spatial development (Clementino and Perkins, 2021; Slepneva et al., 2016; Lazareva et al., 2016; Gassmann et al., 2021).

At all levels, a human-oriented transformation of the system of strategic regulation of socio-economic trends is gradually occurring, transparently reflecting the growing role of human capital as a resource basis for building sustainability (Ali et al., 2016; Buevich et al., 2020; Laskowska and Danska-Borsiak, 2016).

Meantime, the consequences of the pandemic and the new economic situation have led to such negative social effects as growing unemployment and social (primarily income-related) inequality, which significantly slow down the process of human capital accumulation. The introduction of innovative digital technologies, without which, in principle, development is impossible, raises to the rank of demanded the governmental policy in the field of training highly qualified personnel, ensuring public employment and a strategic policy to support innovations (Fedorova et al., 2020; Jílková, 2021; Lenihan et al., 2019).

It is the implementation of ESG principles in the development strategy that will determine the stability of the multilevel decisions made under these conditions. Despite sanctions restrictions and the curtailment of international projects, there is an understanding that modernization should be carried out taking the ESG factors into account, which will improve the environmental friendliness of the real sector and lay the investment potential of ongoing projects.

The novelty of the study lies in the substantiation of a multilevel algorithm for the analysis of human-oriented strategies for managing socio-economic trends. The systemic nature of the proposed algorithm guarantees endogenous consistency of the results of an objective analysis of strategic measures in terms of achieving ESG benchmarks. The results of the study can serve as a basis for developing public policy measures aimed at the sustainable development of human capital.

2. Materials and Methods

The methodological basis of the authors' approach was the systematic innovation-cyclical paradigm of sustainable management of socio-economic trends, according to which the achievement of a specific level of well-being by current and future generations is stably defined by the quality of the accumulated resource base, structurally formed by saving along with the production potential of anthroposocial and environmental capital (Lazareva et al., 2016).

Within the framework of this methodology, a model for a comprehensive assessment of a multi-level strategy for sustainable reproduction of human capital should be based on a systematic analysis and substantiation of the factors that form interconnected three-module level strategies aimed at increasing human potential as a key resource for innovation-sustainable economic dynamics (Fig. 1).

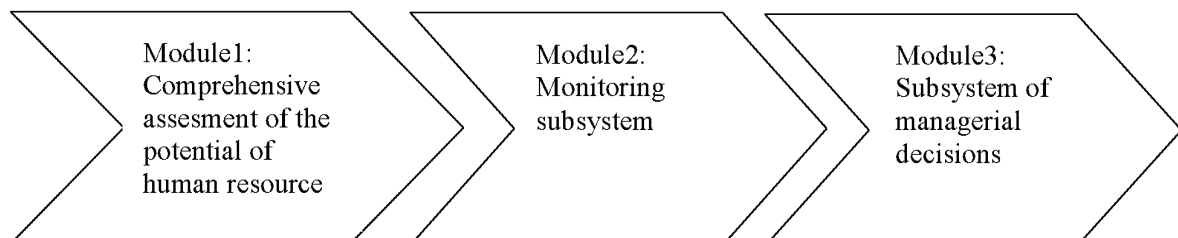


Fig. 1. Modular level management structure for sustainable human potential development. *Source:* developed and compiled by the authors.

A comprehensive assessment of the potential of human resource plays a key role in the formulation of a strategy for the reproduction (increment) of human capital. This assessment should be aimed at fully accounting for all components of broadly interpreted human capital – not only material, but also intangible (anthropo-social and environmental).

In the context of a change in the importance of drivers of sustainable development in Russia, and a shift in emphasis towards the national ESG agenda, the solution of issues related to the second component of the ESG development metric S (social) and, accordingly, the application of social criteria for assessing the potential and strategic directions of the human capital development is becoming more and more paramount – the quality of life, the level of public employment, the social security, the degree of access to social infrastructure (Lazareva et al., 2016).

The development of a model for assessing human resource potential in order to justify the strategy for its increment and use is implemented in terms of levels.

The assessment methodology at the macro- and regional levels is based on econometric tools enabling to provide important results for the implementation of the goals of the state strategic policy – to identify which sectors of human potential should be included in the assessment procedure in order to improve the accuracy of the estimates obtained. The multiple regression model is used, in particular, to test the statistical hypothesis about the need for an ESG adjustment of the traditionally used HDI.

This methodology also enables to substantiate strategies differentiated by regions, seeking to improve the quality of the socio-ecological sphere and increase the level of the public well-being.

The solution of the problem of a ESG – assessment of the human resource potential (HRP) at the micro-level is mainly based on the methodology of system analysis, enabling to evaluate complexly structured factors and qualitative indicators. One of the relevant methods for systematic assessment of the quality of HR management is the method of analyzing hierarchies, which has demonstrated effectiveness in terms of ensuring accuracy, consistency of the information database, hierarchical reflection of interlinks and identifying the most significant factors – criteria and alternatives – in connection with decision-making (Lazareva and Karaycheva, 2016).

3. Results

Using the authors' tools, a comprehensive assessment of the current state of Russia's human resource potential in global coordinates has been obtained, the need for ESG – adjustment of the traditionally used HDI installation into the index of metrics of the state of social and environmental regional systems has been substantiated and empirically verified.

The results of identification of the econometric model in the form (1) revealed a statistically significant influence of the indicator of the social sphere's state (Gini index – x_2) and the indicator of the ecological state (expenses for environmental protection (EP) – x_1) on the variation of the regression values of the HDI as an integral indicator of the human resource potential of regional systems. The calculated quality indicators of the multiple regression model showed a high percentage of reflection of the influence of the factors included in the model on the HDI variation (determination coefficient $D = 0.73$).

$$\hat{Y} = 0,73 + 0,00000165 \cdot X_1 - 0,203 \cdot X_2 \quad \hat{Y} = 0,73 + 0,00000165 \cdot X_1 - 0,203 \cdot X_2 \quad (1)$$

The recalculation of the HDI values characterizing the human potential of the regions of the Russian Federation, using the Rosstat database, showed a significant change in the values of the five-component index compared to the value of the traditional three-component indicator (Fig. 2).

The simulation results served as the foundation for substantiating and empirical verification of the human resource potential increment strategy in the context of the ESG – transformation, which

includes management decisions to increase the quality of the accumulated potential in a four-component perspective (public welfare and living standards, social, environmental subsystems).

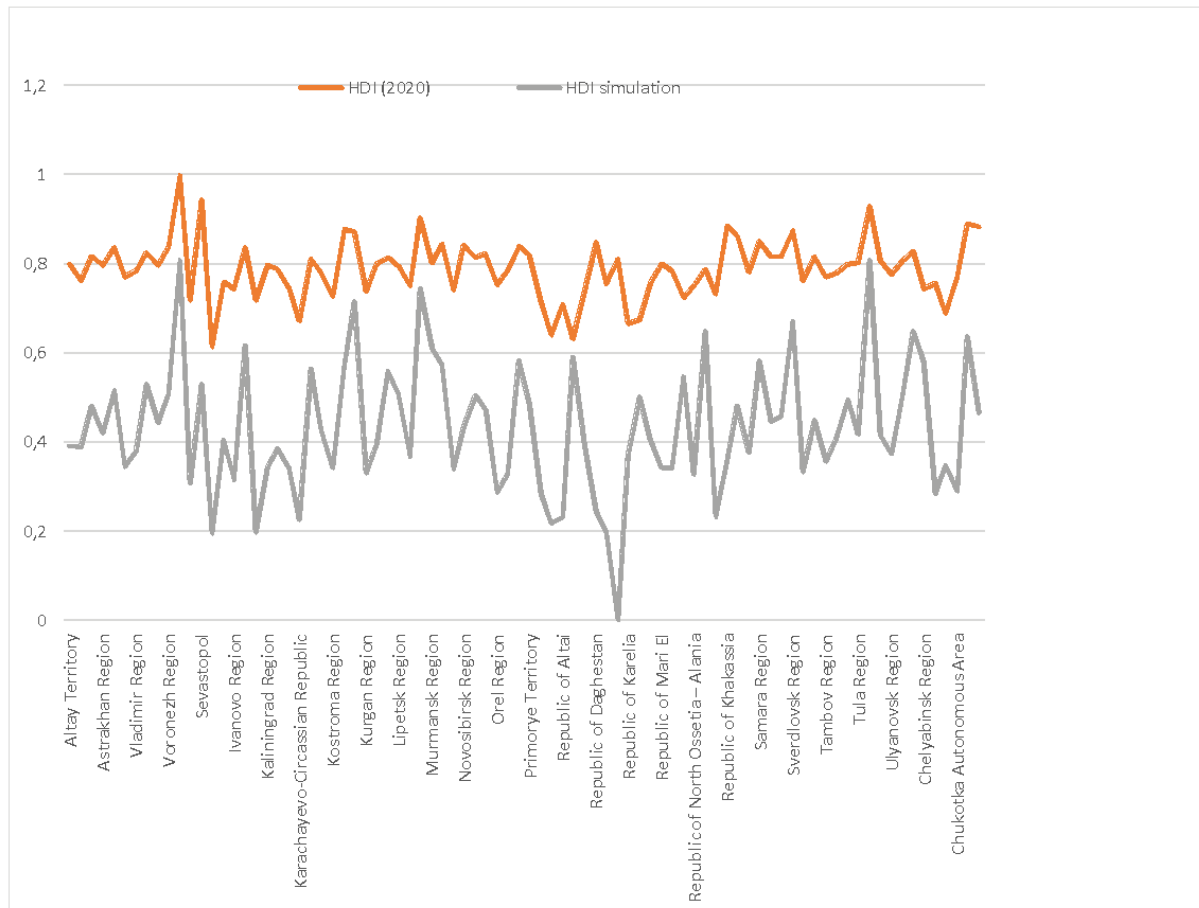


Fig. 2. Results of the assessment of the human potential of the Russian regions using the traditional and authors’ HDI. *Source:* developed and compiled by the authors.

State policy strategies in the field of sustainable reduction of the level of social differentiation are ranked for each of the four types of Russian regions, which differ in the degree of innovative activity of economic agents (Table 1).

In order to implement the ESG – assessment procedure for an organization, an Analytic Hierarchy Process (AHP) toolkit has been developed and a hierarchical structure of interdependent endogenous and exogenous factors, as well as criteria for evaluating alternative solutions, has been identified.

Table 1. Ranking of strategies to reduce social differentiation. *Source:* developed by the authors.

Rating	1	2	3	4
Type of region				
A	Development of social infrastructure	Increasing the level/conditions of employment	Small business development, liberty of entrepreneurship	Increasing access to science and technology, developing information infrastructure
B	Small business development,		Development of social infrastructure	

C	liberty of entrepreneurship	Increasing access to science and technology, developing information infrastructure	Development of social infrastructure	Increasing the level/conditions of employment
D	Increasing access to science and technology, developing information infrastructure	Small business development, liberty of entrepreneurship		

Completeness, objectivity and inter-level consistency of the AHP assessments create a fundamental basis for the formation of unified ESG ratings and assessing the quality of management of modern companies (Lazareva and Karaycheva, 2016).

4. Discussion

The results obtained in the study demonstrate that the development and substantiation of management strategies at the national and regional levels should be implemented using expert and analytical tools that integrate synchronized calculation procedures for a comprehensive assessment of human resource potential using the methods of system analysis and econometric assessment of the parametric characteristics of human-oriented strategies for managing economic trends. The advantage of this toolkit is its holistic nature, which ensures mutual consistency of the tools used in the state strategic policy to stimulate economic trends. Indeed, in the modern human resource management system, are actively used both the methods of system analysis (Lazareva and Karaycheva, 2016), and the econometric methods (Li and Wang, 2018; Shahjahan et al., 2016; Xu and Li, 2020). However, these methods focus on separate, isolated aspects of human-oriented economic development strategies. Understanding the consistency and interdependence of management decisions aimed at minimizing HR risks is reflected in the need to integrate these tools into a single decisions support toolkit.

5. Conclusion

In difficult conditions for the country and business, the ESG agenda will undergo changes under the influence of new challenges that have arisen. However, the fundamental importance of accounting for the ESG factors in the activities of organizations and in public policy remains. Moreover, in the context of the need to prioritize in the current environment, the importance of social aspects of the implementation of the ESG agenda is growing, such as maintaining labor potential and employment, preventing unemployment, professional development of employees, combating poverty and social inequality, improving infrastructure in the regions, creating opportunities ensuring sustainability for companies and further development of business and the country.

The innovation of the authors' approach is defined by the methodological substantiation of a three-level strategy for reproducing the broadly interpreted human resource potential having innovation-oriented dynamics, enabling to comprehensively account for the effects of systemic regulation of economic trends in the course of long-term decision making.

A systematic approach to management means a mutually correlated three-level human-oriented transformation of priorities and key channels for achieving them. The multistructural unity of levels of human resource systems initiates the implementation of the proposed toolkit strategy in order to develop priority directions for the ESG – transformation.

Authors' developments can be used by economic actors to analyze the reasons for the slowdown in the accumulation of human capital and the formulation of a strategy aimed at sustainable reproduction of human resource.

Acknowledgments

The study was carried out within the framework of the project “Digital Atlas of Political and Socio-Economic Threats and Risks of Development of the South Russian Border Area: National and Regional Context” (“Digital South”) within the framework of the Strategic Academic Leadership Program “Priority 2030” No. SP-14-22-06

References

1. M. Ali, U. Cantner, I. Roy, J. Evol. Econ. **26(4)**, 323-351 (2016). <https://doi.org/10.1007/s00191-016-0462-8>
2. A.P. Buevich, S.A. Varvus, G.A. Terskaya, Lect. Notes Networks Sys. **9**, 397-406 (2020). https://doi.org/10.1007/978-3-030-32015-7_44
3. E. Clementino, R. Perkins, J. Bus. Ethics **171**, 379-397 (2021). <https://doi.org/10.1007/s10551-020-04441-4>
4. A. Fedorova, Z. Dvorakova, O. Koropets, Int. J. Monetary Econ. Fin. **13(3)**, 206-214 (2020). <https://doi.org/10.1504/IJMEF.2020.108829>
5. P. Gassmann, C. Herman, C. Kelly, Are you ready for the ESG revolution? (2021). Accessed on: October 23, 2022. [Online]. Available: <https://www.pwc.com/gx/en/issues/esg/esg-revolution.html>
6. P. Jilková, TEM J. **10(2)**, 699-706 (2021). <https://doi.org/10.18421/TEM102-26>
7. I. Laskowska, B. Danska-Borsiak, Compar. Econ. Res. **19(5)**, 63-79 (2016). <https://doi.org/10.1515/ce-2016-0038>
8. E. Lazareva, T. Anopchenko, D. Lozovitskaya, *Identification of the City Welfare Economics Strategic Management Innovative Model in the Global Challenges Conditions*, in SGEM 2016 Conference Proceedings, 3-10 (2016). <https://doi.org/10.2991/cssdre-18.2018.61>
9. E. Lazareva, O. Karaycheva, *Modern organizations' reputational capital' innovative management strategy specification in the international business integration network format*, in SGEM 2016 Conference Proceedings, **1**, 419-426 (2016). <https://doi.org/10.17213/2312-6469-2020-2-275-284>
10. H. Lenihan, H. McGuirk, K.R. Murphy, Res. Pol. **48(9)**, 103791 (2019). <https://doi.org/10.1016/j.respol.2019.04.015>
11. T. Li, Y. Wang, China Econ. Rev. **51**, 309-322 (2018). <https://doi.org/10.1016/j.chieco.2016.11.002>
12. M. Sciarelli, S. Cosimato, G. Landi, F. Iandolo, TQM J. **33(7)**, 39-56 (2021). <https://doi.org/10.1108/tqm-08-2020-0180>
13. A. Shahjahan, J.A. Khandaker, N. Thuhid, J. Econ. Sust. Devel. **7(17)**, 30-38 (2016). Accessed on: October 23, 2022. [Online]. Available: https://www.researchgate.net/publication/308780913_An_Econometric_Analysis_of_Human_Capital_Development_and_Economic_Growth_in_Bangladesh
14. L.R. Slepneva, A.A. Kokorina, J.V. Slepneva, D.D. Tsyrenov, I.S. Munkueva, Int. J. Econ. Fin. Iss. **6(2)**, 179-187 (2016). Accessed on: October 23, 2022. [Online]. Available: https://www.researchgate.net/publication/304891259_Socio-economic_Development_of_Regions_of_Russia_Assessment_of_the_State_and_Directions_of_Improvement
15. H.J. Stern, Better Bonus Plans for ESG. Stern, H.J. (2020). Better Bonus Plans for ESG. DecisionSciRN: Corporate Governance Decision-Making (Sub-Topic) (2020). <https://doi.org/10.2139/ssrn.3611652>
16. Y. Xu, A. Li, J. Comp. Appl. Math. **365**, 112381 (2020). <https://doi.org/10.1016/j.cam.2019.112381>
17. X. Zhou, B. Caldecott, E. Harnett, K. Schumacher, Univ. Oxford. Working Paper **20-03** (2021). Accessed on: October 23, 2022. [Online]. Available: <https://www.smithschool.ox.ac.uk>