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Investing in Human Capital for Green and Sustainable Development

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Abstract: Green and sustainable development is crucial for addressing environmental challenges and promoting a more sustainable future. Central to this endeavor is the investment in human capital, which involves developing and empowering individuals with the knowledge, skills, and mindset necessary to contribute and lead sustainable development efforts. Explores the importance of investing in human capital and the various ways in which it can be fostered to drive green and sustainable development. An analysis was made in the areas of investments in health care, education and environmental protection in order to develop a sustainable green development of the economy.

Keywords: green development; human capital; environmental protection; sustainable development.

JEL Classification: Q57; M54.

Introduction

The green economy is currently being differentiated as a separate direction in the economy that needs additional scientific research. What stands out is that it represents the efficient use of natural resources and the reduction of pollution in production processes. Along with the green economy, one can often come across the concept of "sustainable development". The direction of sustainable development of the green economy involves a process that affects the economic, social and political spheres of life of the population. An important component contributing to the process of implementing the green economy is human capital. Efficient distribution and use of

other types of capital will ensure the stable development of a sustainable green economy. Countries successfully implementing green economy principles have one of the highest human capital indices. Many states that successfully implement the principles of green development attract human capital from abroad.

Before the introduction of restrictions, human capital accounted for about two-thirds of the structure of national wealth in the world. However, in the post-quarantine period, the formation of human capital has become extremely important, since human skills and knowledge are the most important resource for the sustainable development of the green economy.

Socio-environmental and economic issues today have an important basis, characteristic of human life. Solving the problems of the ecological crisis, and hence reducing the level of poverty, actualizes the need to study the role and importance of human capital in the development of society. In this regard, the scientific substantiation of a number of criteria assessing human capital in the interests of the sustainable development of the green economy is of great importance.

1. Literature Review

The relationship between financial development and green growth is manifested in the fact that human capital and education spending are becoming one of the 2030 Sustainable Development Goals. Education and health have a positive and significant impact on economic growth and, by supporting higher growth rates, sustainable development. Human capital plays an important role in the process of economic growth, where education and health are key components. Economic growth is stimulated by such areas as life expectancy, the level of health care financing, technological progress, poverty reduction, child mortality, and fertility.

Thus, it is necessary to take adequate measures for the listed measures in the field of increasing health care costs and life expectancy while reducing poverty, mortality and fertility. Practice shows that health care spending has a significant negative correlation with economic growth. With a high level of human capital, the economic impact of spending on health care is enhanced.

The study of sustainable ways of conducting socio-economic activities leads to the inevitability of human overspending of natural capital. The formation of financial, natural and human resources for ecological systems is not well understood, which requires research on the combined impact of economic growth and capital on environmental sustainability. Natural resources and human capital help to reduce environmental impact, as does investment. Attracting investment and human capital will help the rapid introduction of innovation of states. Human capital influences the spread of intensive use of new technologies between countries, while ensuring economic growth (Cervellati *et al.*2023).The use of incompetent human capital leads to negative consequences of environmental degradation, which require the development of mechanisms for the implementation of nature management (Regier *et al.*2023).

Human capital knowledge, potential and skills have a significant positive relationship with organizational performance, as evidenced by the effect of innovation leadership between human capital knowledge and organizational performance (Ahakwa *et al.* 2023, Jandrić 2023). Food security and the environment has important implications for improving environmental sustainability and efficient use of food resources has implications for human capital research (Ashraf and Javed2023).

The study of strategic issues of working with human resources is in a positive relationship with the potential for the effectiveness of innovation. The need to implement a knowledge management strategy can rethink knowledge processes and unleash the full potential of their human resources, gaining a competitive advantage in a knowledge-based economy (Stefănescu and Stefănescu 2008), will positively affect the increase in life expectancy (Latifah *et al.* 2022, López-Cabrales *et al.* 2021, Budiarti 2018, Chung-Jen 2019).

The lack of research by foreign and domestic authors and the practical side of the issues of human capital formation show the need to develop theoretical and methodological foundations in this area.

2. Investments in Human Capital the Key to a Sustainable Recovery

Sustainable development requires a holistic approach that encompasses various aspects of life, including the environment, economy, and society. Investments in human capital, particularly education and training. By raising the level of education and skills of employees within a company, several positive outcomes can be achieved, including the reduction of negative environmental impacts.

All aspects of human capital have a positive effect on increasing life expectancy, which is explained by the demographic policy of many countries. However, increasing life expectancy hampers economic growth, probably due to an increasingly aging population (Sultana *et al.* 2022). Innovations in green technologies can bring dual benefits, *i.e.*, technological progress and energy savings, as well as emission reductions, which are considered

an effective means of achieving economic development and environmental protection. Human capital significantly contributes to green technology innovation (Zhang and Li 2023).

Human capital has a positive relationship between energy consumption and economic growth, although a significant negative relationship is found between R&D spending and energy consumption (Shahbaz *et al.* 2022). To achieve the Sustainable Development Goals (SDGs), the relationship between financial development and green growth is explored, where human capital and education spending are central to sustainable development (Ngo *et al.* 2022).

The impact of environmental regulations and foreign direct investment on the overall productivity of industrial sectors by controlling human capital will ensure the transition to a green economy that will benefit its own sustainable development (Qiu *et al.* 2021). The relationship between human capital and economic growth shows that both education and healthcare have a positive and significant impact on the green economy and thus support higher growth rates (Chaabouni and Mbarek 2022, Jayadevan 2021).

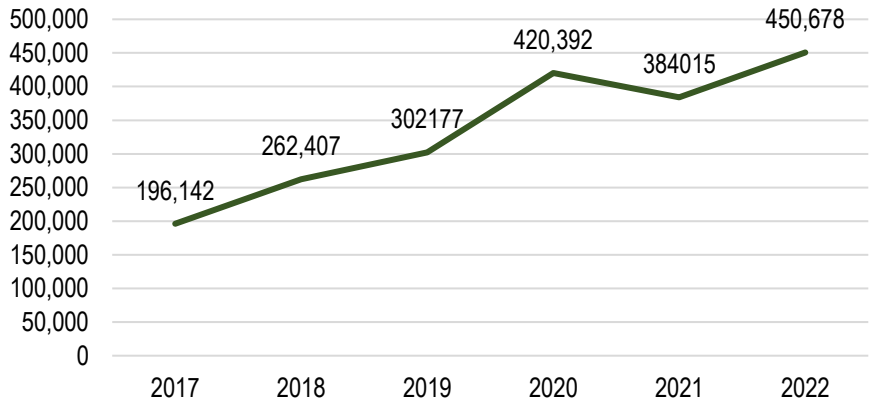
The results show that spending on health care and the green economy depends on different levels of human capital. In particular, when the level of human capital is low, health spending has a significant negative correlation with economic growth (Yang 2020, Puskarova 2022, Jabeen *et al.* 2023).

Economic growth and energy consumption are negatively related to the ecological footprint. Natural resources and human capital help reduce environmental impact, as does foreign direct investment (Zafar *et al.* 2019). A large number of publications devoted to the problems of human capital are confirmed by Kazakh researchers as Nakipova (2021), Aimurzina *et al.* (2021).

The investments in human capital can contribute to environmental sustainability as follows:

- Increased Environmental Awareness: Education can enhance individuals' understanding of environmental issues, their causes, and potential solutions. By providing education and training programs that focus on environmental sustainability, companies can raise awareness among employees about the importance of protecting the environment and adopting sustainable practices.
- Adoption of Sustainable Practices: Well-educated employees are more likely to be knowledgeable about sustainable practices and technologies. Through training and education, companies can promote the adoption of environmentally friendly practices, such as waste reduction, energy efficiency, and resource conservation.
- Innovation and Research: Investments in education and research can drive innovation in sustainable technologies and practices. Well-educated employees are more likely to develop innovative solutions to environmental challenges, sustainable production processes. These innovations can contribute to reducing the environmental footprint of businesses.
- Compliance with Environmental Regulations: Education and training can help employees understand and comply with environmental regulations and standards. By investing in the education of employees, companies can ensure that they have the necessary knowledge and skills to meet environmental requirements and implement sustainable practices in their daily work.
- Sustainability in Decision-Making: Education equips individuals with critical thinking and problem-solving skills. Employees with a higher level of education are more likely to consider the environmental impact of their decisions and incorporate sustainability principles into their work. This can lead to more environmentally conscious decision-making processes within the organization.

Figure 1. Costs for environmental protection, mln. tenge



Source: compiled by authors according to www.stat.kz

The data in Figure 1 show that the cost of environmental protection in 2022 increased by almost 2.3 times or 254,536 million tenge. Based on the foregoing, in recent years the level of social responsibility has been significantly reduced and environmental responsibility has been increased (priority to natural capital).

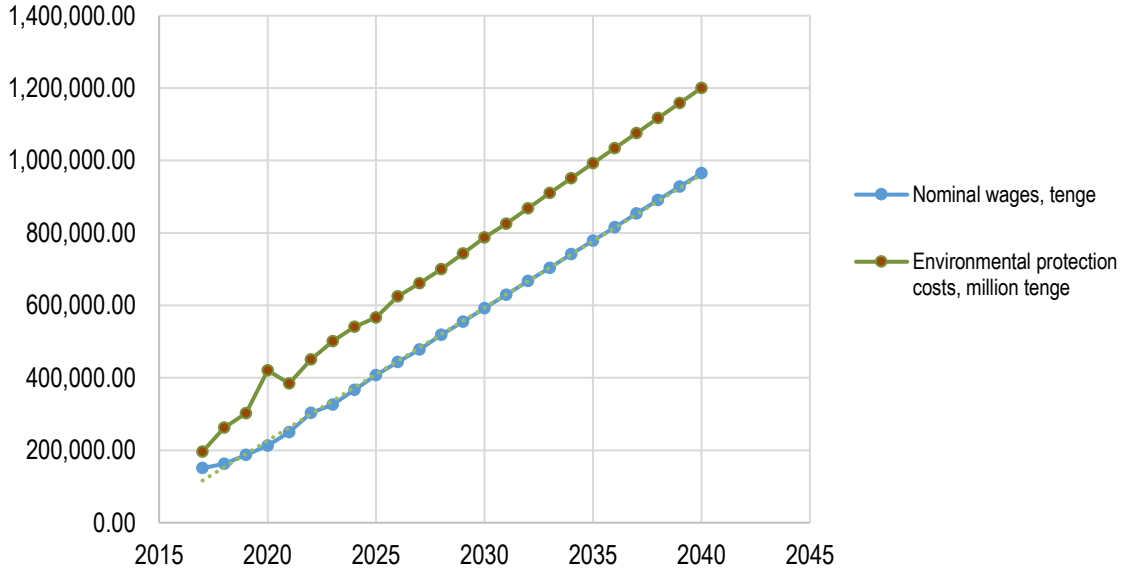
With the help of applied statistics methods, the dynamics of two factors of sustainable development were compared. Next, we will conduct an analysis of variance to determine whether the sustainability factors depend on the selected socio-economic and environmental parameters of the space.

Table 1. Forecast of two factors of sustainable development

Year	Nominalwages, tenge	Environmental protection costs, million tenge
2017	150.827	196.142
2018	162.673	262.407
2019	186.815	302.177
2020	213.003	420.392
2021	250.311	384.015
2022	303.000	450.678
2023 forecast	326.405,40	501.447,80
2024	366.660,22	540.390,24
2025	406.898,576	566.613,392
2026	443.705,651	625.101,594
2027	477.905,313	661.050,039
2028	518.328,609	700.095,362
2029	555.002,728	742.804,193
2030	591.617,554	787.345,527
2031	629.188,337	825.151,949
2032	667.165,006	867.925,610
2033	703.817,968	910.067,003
2034	741.311,698	951.190,568
2035	778.825,489	992.117,672
2036	816.087,998	1.034.449,48
2037	853.297,683	1.075.679,59
2038	890.788,886	1.117.046,09
2039	928.090,322	1.158.678,57
2040	965.387,242	1.200.309,80
	$y = 4587{,}1x^2 - 2110{,}8x + 148921$ $R^2 = 0{,}9988$	$y = -5403{,}5x^2 + 87988x + 109964$ $R^2 = 0{,}9266$

Source: compiled and calculated by authors

Figure 2. Linear relationship between two sustainability factors: nominal wages and environmental costs



Source: compiled and calculated by authors

A linear relationship between two sustainability factors, nominal wages, and environmental costs implies that changes in one factor are directly and proportionally related to changes in the other. In this context, it would mean that as nominal wages increase, environmental costs also increase, and vice versa. If nominal wages rise, it could lead to increased consumer spending and economic growth, which might result in higher production and resource consumption, subsequently raising environmental costs. On the other hand, if nominal wages decrease, there might be reduced consumption and production, potentially leading to lower environmental costs.

The linear relationship between two sustainability factors: nominal wages and environmental costs is expressed by the equation: y = 36725x - 7E+07, R^2 = 0,9988.

Table 2. Directions for investment in human capital

Investmentprograms	Results
Environmental protection	▪ Reducing harm to the environment. ▪ The use of clean energy through social subsidies for utilities. ▪ Implementation of environmental management through the training of professional workers in low-carbon enterprises.
Education (inclusive)	▪ Covering the poorest segments of the population with quality education programs.
Socialsphere	▪ Access to health care and social support for vulnerable groups, including persons with disabilities, especially in times of cataclysms or pandemics.

Source: compiled by authors

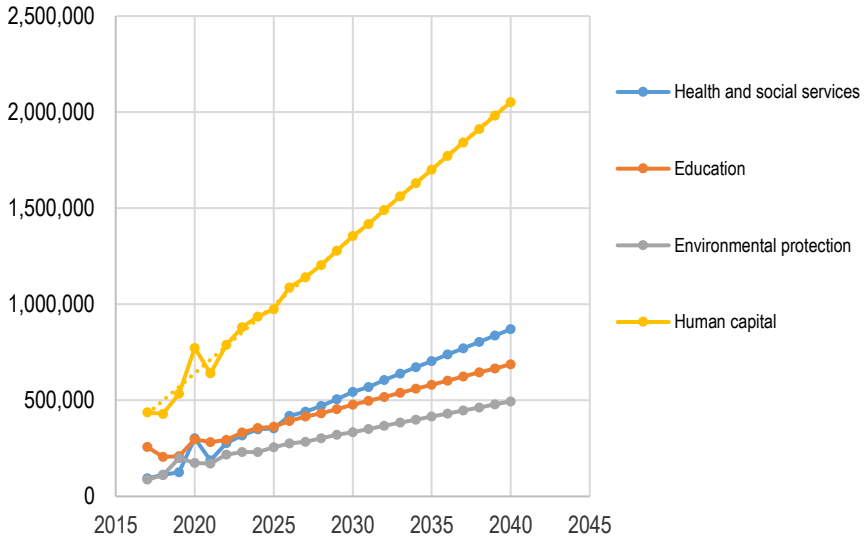
In order to determine the structure of investments in human capital from the point of view of formation, it is necessary to analyze them in terms of investment areas, namely investments in healthcare, education and environmental protection, which is possible as a result of applying the summation of investment flows in the formation of human capital (Table 3).

Table3. Forecast of investments in human capital, million tenge

Years	Investments in healthcare and social services (IH)	Investments in education (IE)	Investments in environmental protection (IEP)	Investments in human capital IHC = ∑I H+ ∑ I E +∑I EP
1	2	3	4	5
2017	93.717	257.223	86.962	437.902
2018	113.230	205.265	111.161	429.656
2019	126.494	209.162	198.722	534.378
2020	301.911	297.263	173.619	772.793
2021	187.287	282.907	171.165	641.359
2022	277.274,1	293.373,8	217.585	788.233
2023 forecast	317.903,58	332.582,94	230.037,7	880.524
2024	349.628,614	355.943,552	230.204,96	935.777
2025	354.616,4012	362.525,1716	256.135,718	973.277
2026	419.445,934	392.008,3213	275.794,0944	1.087.248
2027	440.090,6726	415.450,1392	284.706,3565	1.140.247
2028	470.594,4919	432.241,7751	301.853,7000	1.204.690
2029	505.097,0309	453.290,216	321.299,4014	1.279.687
2030	543.601,8513	477.632,1875	334.873,9458	1.356.108
2031	569.761,454	496.850,8706	350.131,3239	1.416.744
2032	605.533,7768	517.550,6002	367.733,9996	1.490.818
2033	639.280,6188	539.766,6213	383.356,2307	1.562.403
2034	671.744,6768	560.879,4661	398.571,0940	1.631.195
2035	703.725,9203	581.359,0415	415.119,0798	1.700.204
2036	738.251,2391	602.984,8822	431.226,1274	1.772.462
2037	770.671,3142	624.246,4175	446.825,4377	1.841.743
2038	803.521,1397	645.166,7883	462.897,6282	1.911.586
2039	836.732,354	666.365,9253	479.035,7013	1.982.134
2040	869.965,2238	687.683,3131	494.872,218	2.052.521
				y = 70778x - 1E+08 R^2 = 0,9947

Source: compiled and calculated by authors

Figure 3. Linear regression model of investment in human capital



Source: compiled and calculated by authors

Using the methods of correlation-regression analysis, the main static processes of the development of human capital were identified according to the criterion of maximum closeness of the pairwise correlation of such indicators as health care, education and environmental protection. The coefficient of determination (R2) is equal to $R^2 = 0.9947$.

Conclusion

Thus, the most important tool for the development of human capital is the process of investing in the sustainable development of a green economy. The transition to sustainable development towards a "green" economy determines the sustainability of the development of not only individual national economies, but also the conservation of natural resources and the uninterrupted supply of resources and ecosystem services.

Green growth will accelerate investment in human capital, which will lead to the formation of new professional skills among specialists. The education sector, which ensures the development of human capital in a new innovative environment, the digital economy with qualified and competitive personnel, should play an important role. Human capital should become an integral part of the concept of sustainable green development, along with the economic, social and environmental spheres.

Identifying talented youth and building a successful career in science to provide the sectors of the innovative economy with highly qualified personnel will become a platform for a green economy. The concept of developing human capital and intellectual potential should be based on the growth of investment in education, which will lead to the development of human capital and the socio-economic development of society. Human capital should also be considered as an economic and social resource for the development of any state by improving the system of higher professional education, ensuring continuous professional development and effective retraining of personnel.

The transition to a resource efficient economy requires a skilled and knowledgeable workforce that can adapt to changes in technology, politics and business practices. There is a need to acquire skills and knowledge related. It is necessary to rethink the priority of the social sphere and the formation of a multi-channel system of sources of investment in higher education and health care by increasing the financing of primary health care, in order to rapidly increase financial / human resources for emergency response.

Credit Authorship Contribution Statement

Ansagan Beisembina: Development of the concept of scientific work: the formation of ideas; formulation of key goals and objectives. Writing an introduction, designating problems that have not been resolved in previous studies. The formulation of the purpose and objectives of the study, the relevance of the topic and the degree of its importance at the moment and in this situation. Critical review of the literature, generalization of the main points of view, study and evaluation of existing works on this topic.

Alla Gizzatova: The formulation of the purpose and objectives of the study, the relevance of the topic and the degree of its importance at the moment and in this situation. Critical review of the literature, generalization of the

main points of view, study and evaluation of existing works on this topic. Description of the sequence of the study and justification for the choice of methods used to obtain reliable and reasoned results.
Yerlan Kunyazov: Conducting research, gathering data/evidence, analyzing and interpreting the findings. Systematization of statistical material in the form of tables, figures. Experimental part, analysis, generalization of data. Based on the studied scientific positions of scientists and experimental work, an analysis of the patterns and trends in the development of the process under study, a forecast of the data obtained during the study.
Takhir Ernazarov: Experimental part, analysis, generalization of data. Analysis of patterns and trends in the development of the process under study, forecast of the data obtained during the study. Application of statistical and mathematical methods for the analysis and synthesis of research data.
Nurlan Mashrapov: Drafting of the manuscript, preparation, creation and presentation of the published work. Final revision of the published version of the manuscript. Drawing up a conclusion as a brief formulation of the results of the study.
Sergey Dontsov: Preparation, creation of a published work in terms of data visualization/display. Final revision of the published version of the manuscript. A brief analysis of the results obtained, drawing reasoned conclusions. Acceptance of responsibility for all aspects of the work, the integrity of all parts of the article and its final version.

The authors of this article confirmed the lack of financial support / conflict of interest to be reported.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

[1] Ahakwa, I., Xu, Y., and Agba Tackie, E. 2023.Greening human capital towards environmental quality in Ghana: Insight from the novel dynamic ARDL simulation approach. *Energy Policy* 176: 113514. https://doi.org/10.1016/j.enpol.2023.113514

[2] Aimurzina, B., Kamenova, M., Omarova, A. 2021. Corporate Social Business. ASERS Publishing.

[3] Ashraf, J. and A., Javed, 2023. Food security and environmental degradation: Do institutional quality and human capital make a difference? *Journal of Environmental Management* 331: 117330. DOI:https://doi.org/10.1016/j.jenvman.2023.117330

[4] Budiarti, I. 2018. Knowledge Management and Intellectual Capital - A Theoretical Perspective of Human Resource Strategies and Practices. *European Journal of Economics and Business Studies* 3(2): 148-155. DOI: https://doi.org/10.26417/ejes.v8i1.p148-155

[5] Cervellati, M., G., Meyerheim, and U., Sunde 2023. Human capital and the diffusion of technology. *Economics Letters*, 226. DOI: https://doi.org/10.1016/j.econlet.2023.111108

[6] Chaabouni, S., and P. Mbarek 2022. What Will Be the Impact oftheCOVID-19 Pandemic on the Human Capital and Economic Growth? Evidence from Eurozone. *Journal of the Knowledge Economy* 3. DOI:https://doi.org/10.1007/s13132-023-01328-3

[7] Chung-Jen, C., and H. Jing-Wen, 2019. Strategic human resource practices and innovation performance - The mediating role of knowledge management capacity. *Journal of Business Research* 62(1): 104-114. DOI:https://doi.org/10.1016/j.jbusres.2018.11.016

[8] Jabeen, G., M., Ahmad and Q. Zhang 2023.Combined role of economic openness, financial deepening, biological capacity, and human capital in achieving ecological sustainability. *Ecological Informatics* 73. DOI:https://doi.org/10.1016/j.ecoinf.2022.101932

[9] Jandrić, P. 2023. Postdigital human capital. *International Journal of Educational Research,* 119: 102182. DOI: https://doi.org/10.1016/j.ijer.2023.102182

[10] Jayadevan, C.M. 2021. Impacts of health on economic growth: evidence from structural equation modelling. *Asia-Pac J Reg Sci* 5: 513–522. DOI: https://doi.org/10.1007/s41685-020-00182-4

[11] Latifah, L., D., Setiawan, Anni, Y., Aryani, I., Sadalia, M., Nurrianto and A. Arif 2022. Human Capital and Open Innovation: Do Social Media Networking and Knowledge Sharing Matter? *Journal of Open Innovation: Technology, Market, and Complexity* 3(8): 116. DOI: https://doi.org/10.3390/joitmc8030116

[12] López-Cabrales, Á., J.C., Real and R. Valle, 2021. Relationships between human resource management practices and organizational learning capability: The mediating role of human capital. *Personnel Review* 40(3): 344-363. DOI: https://doi.org/10.1108/00483481111118658

[13] Nakipova, G. 2021. Influence of Human Capital on the Development of Tourism Industry. *Journal of Environmental Management and Tourism* 6(54): 1694-1706. DOI:https://doi.org/10.14505//jemt.v12.6(54).25

[14] Ngo, T., H., Trinh, I., Haouas and S., Ullah, 2022. Examining the bidirectional nexus between financial development and green growth: International evidence through the roles of human capital and education expenditure. *Resources Policy* 79. DOI: https://doi.org/10.1016/j.resourpol.2022.102964

[15] Puskarova, P. 2022. Trust or bust: Growth effects of knowledge, human and social capital revisited. *Economic Systems* 46(4). DOI: https://doi.org/10.1016/j.ecosys.2022.101036

[16] Qiu, S., Z., Wang and S., Geng, 2021. How do environmental regulation and foreign investment behavior affect green productivity growth in the industrial sector? An empirical test based on Chinese provincial panel data. *Journal of Environmental Management* 287. DOI: https://doi.org/10.1016/j.jenvman.2021.112282

[17] Regier, M. and E., Rouen 2023.The stock market valuation of human capital creation. *Journal of Corporate Finance* 79. DOI: https://doi.org/10.1016/j.jcorpfin.2023.102384

[18] Shahbaz, M., M., Song, S., Ahmad and X.Vinh, 2022.Does economic growth stimulate energy consumption? The role of human capital and R&D expenditures in China. *Energy Economics*, 105. DOI:https://doi.org/10.1016/j.eneco.2021.105662

[19] Sultana, T., S., Rani Dey and M, Tareque 2022. Exploring the linkage between human capital and economic growth: A look at 141 developing and developed countries. *Economic Systems* 46(3). DOI:https://doi.org/10.1016/j.ecosys.2022.101017

[20] Sun, Y., J., Liu and Y., Ding 2020. Analysis of the relationship between open innovation, knowledge management capability and dual innovation. *Technology Analysis & Strategic Management* 32(1): 15-28. DOI: https://doi.org/10.1080/09537325.2019.1632431

[21] Ștefănescu, L. and A., Ștefănescu, 2008. The need of knowledge management strategy for the successfully implementation of reengineering projects*, ICFAI University Journal of Knowledge Management* 6(6): 51-60. Available at: https://www.iupindia.in/1108/IJKM_Knowledge_Management_Strategy_51.html

[22] Yang, X. 2020. Health expenditure, human capital, and economic growth: an empirical study of developing countries. *Int J Health Econ Manag* 20(2):163–176. DOI: https://doi.org/10.1007/s10754-019-09275-w

[23] Zafar, M., S., Zaidi, Naveed, R. Khan, F., Mirza, F., Hou, and S., Kirmani 2019. The impact of natural resources, human capital, and foreign direct investment on the ecological footprint: The case of the United States. Resources Policy 63. DOI: https://doi.org/10.1016/j.resourpol.2019.101428

[24] Zhang, J., and Sh, Li 2023. The Impact of Human Capital on Green Technology Innovation - Moderating Role of Environmental Regulations. *Int. J. Environ. Res. Public Health* 20(6): 4803. DOI:https://doi.org/10.3390/ijerph20064803

[25] Official resource of the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan. www.stat.kz

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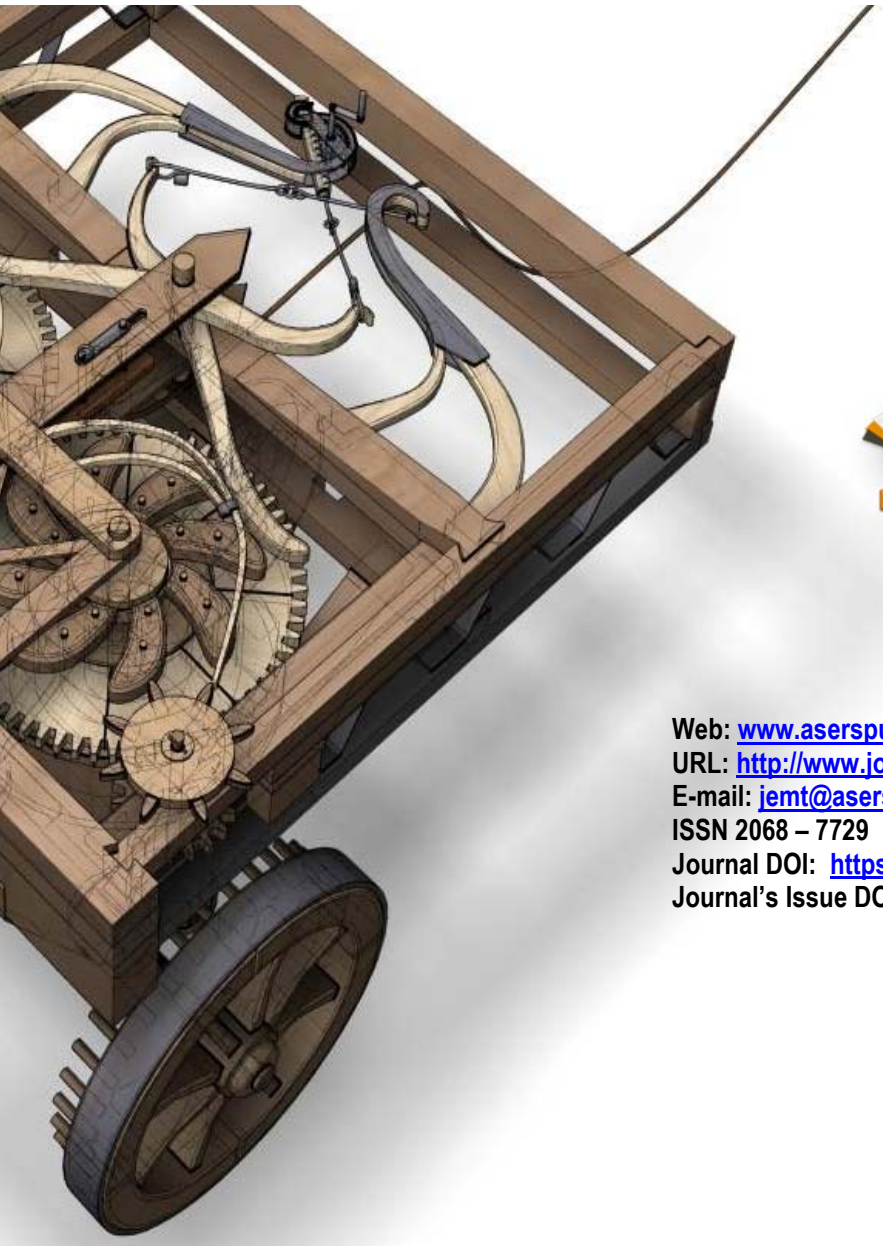

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