

ESG SUBSYSTEMS AND STRATEGIES TO ENHANCE THEIR OPERATIONAL EFFICIENCY

SUBSISTEMAS ESG E ESTRATÉGIAS PARA MELHORAR SUA EFICIÊNCIA OPERATIVA

Natalia Prodanova*

ORCID 0000-0001-5140-2702

Plekhanov Russian University of Economics
Moscow, Russia

prodanova-00@mail.ru

Olga Tarasova

ORCID 0000-0001-6089-0939

Plekhanov Russian University of Economics
Moscow, Russia

olgaklchv@rambler.ru

Abstract. This study is dedicated to the delineation of Environmental, Social, and Governance (ESG) subsystems and the identification of reserves for enhancing their performance. From a global ESG agenda perspective, the transition from a mere "slogan" stage to the emergence of a market for ESG-related services and solutions for economic entities has long been surpassed. In recent years, the ESG approach is increasingly employed by investors and analysts to assess the long-term viability and responsible conduct of companies. Concurrently, consumer behavior is becoming more conscious and responsible, inevitably influencing changes in corporate business strategies, the development of new markets, and the popularity of ESG investments. According to the authors, ESG investments and business models that take into account social and environmental aspects contribute to the sustainable development of businesses and mitigate risks for companies.

Keywords: sustainable development, esg, esg subsystems, performance enhancing reserves, risks.

Resumo. Este estudo é dedicado à definição de subsistemas Ambientais, Sociais e de Governança (ESG) e à identificação de reservas para melhorar seu desempenho. Do ponto de vista da agenda global de ESG, a transição de uma mera etapa de "eslogan" para o surgimento de um mercado de serviços e soluções relacionadas com ESG para entidades econômicas já foi superada há muito tempo. Nos últimos anos, investidores e analistas têm utilizado cada vez mais a abordagem ESG para avaliar a viabilidade a longo prazo e a conduta responsável das empresas. Ao mesmo tempo, o comportamento do consumidor está cada vez mais consciente e responsável, o que inevitavelmente influencia as mudanças nas estratégias comerciais corporativas, no desenvolvimento de novos mercados e na popularidade dos investimentos ESG. Segundo os autores, os investimentos ESG e os modelos de negócios que levam em conta os aspectos sociais e ambientais contribuem para o desenvolvimento sustentável das empresas e mitigam os riscos para as empresas.

Palavras-chave: desarrollo sostenible, esg, subsistemas esg, reservas que mejoran el rendimiento, riesgos.

1. INTRODUCTION

The ESG index is one of the terms that has been talked about and heard a lot in the last decade. This index, whose name is made from the combination of the first three letters of the words environment (Environment), social concerns (Social) and corporate governance (Governance), measures aspects of the activities of companies and businesses that are less common in economic and financial reports. They are addressed. The discussion of ESG index and its functions and challenges are usually considered a subset of value-oriented investment and business ethics, and they deal with it in these areas, which is very useful and valuable in its own right. In the present era, contemporary society is confronted with unprecedented challenges stemming from the adverse repercussions on the environment due to unsustainable economic practices. The gradual depletion of natural resources, pollution of air and water, and the consequential climate change represent exigent issues necessitating immediate, agile, and



efficacious interventions. The foundational pivot for these interventions lies in the paradigm shift towards the tenets of sustainable development (World Economic Forum, 2020; Shariati et al., 2013), the assimilation of which transcends mere moral imperative, evolving into a strategic imperative for both individual enterprises and entire nations.

The economic vistas entwined with the assimilation of sustainable development principles transcend the simplistic reduction of ecological footprints (Buliga & Safonova, 2022; Jamalpour & Yaghoobi-Derab, 2002; Jamalpour & Derabi, 2023). They encompass prospects for deploying cutting-edge technologies, innovative solutions, and the genesis of nascent markets, thereby amplifying the competitive edge of enterprises and national economies. Entities adept at executing judicious resource and environmental stewardship enhance their allure for investment among discerning consumers and astute investors. Environmental efficacy emerges as a pivotal criterion in the discernment of goods and services, thereby fostering a heightened demand for ecologically benign products. In a prospective context, sustainability may metamorphose into a determinant influencing resource access, financial backing, and global market penetration (Corporate Knights 2021; Susminingsih, 2023).

Compliance with ethics in business is not a new concern. There has been a discussion of ethics in business for centuries, and philosophers, businessmen, and preachers have addressed it. But the complexity of business strategies and models and the emergence of new means of providing and trading capital (such as the stock market) have made it more complicated and at the same time more important to recognize examples of ethics and immorality in business.

To get an idea of how important business ethics have become (compared to, say, two or three centuries ago), just think of the fact that when someone buys shares in a company (say, an automobile company) and that company, with its customers, He does unethical behavior, in fact this person is also a partner in that unethical work. If this shareholder is also the customer of that company, he may play the role of oppressor and oppressed at the same time. A phenomenon that you cannot easily explain to someone who lived a few hundred years ago (Nurhajati et al., 2023).

The objective of this article is to investigate the economic prospects of mitigating negative environmental impact through the transition to sustainable models of production and consumption. Grounded in a critical analysis of current challenges facing both businesses and society, the authors endeavor to address the question of how the integration of sustainable development principles can emerge as a pivotal factor in the establishment of economically efficient and ecologically sustainable societies.

2. MATERIALS AND METHODS

To examine ESG subsystems and identify reserves for enhancing their productivity, a comprehensive meticulous analysis of literary sources has been carried out. The research methodology employed for this study encompassed a comprehensive review of scholarly articles, books, organizational reports, and various publications related to corporate responsibility management and ESG investing. The data collection process primarily relied on publicly available sources of information. Throughout the research and subsequent data analysis, diverse methodologies were utilized. These included statistical data analysis, content analysis, comparisons with international standards, and a meticulous examination of relevant legislation. This multifaceted approach aimed to ensure a thorough exploration of the subject matter. The focus of this study predominantly revolves around the issues associated with presenting and disclosing ESG-related information, providing a foundational basis for attracting investments into specific industries or organizations.

Using the ESG framework can bring tangible benefits to both businesses and investors. For businesses, it opens up access to a larger pool of capital and promotes a stronger brand identity,

and investors can demonstrate their values, often through ESG-focused investments, with returns similar to or better than traditional approaches (Wu et al., 2022).

It provides a competitive advantage

Companies that engage in ESG efforts often gain a competitive advantage over business rivals. For example, a 2022 survey of 1,062 US residents by GreenPrint, a provider of sustainability tools now owned by PDI Technologies, found that 66 percent of respondents would be willing to spend extra money on environmentally friendly products. Similarly, 70 percent of 400 IT professionals surveyed in 2022 by TechTarget's enterprise strategy division said they thought their company would receive more than a 5 percent premium for IT products from vendors with strong ESG practices are paying. The various ESG metrics tracked and reported by companies are also important to consumers, employees, lenders and regulators. Corporate leaders who strive to improve working conditions, promote diversity, contribute to society and take a stand on socio-economic issues play a major role in strengthening a company's brand.

It attracts investors and lenders

It is common among businesses to include ESG reports in earnings reports or in separate disclosures. Investors and lenders are increasingly attracted to organizations that invest in (ESG) and use ESG disclosures to illuminate their sustainability efforts. A Gallup study published in 2022 found that 48% of investors are interested in sustainable mutual funds, while a Dow Jones survey of 200 investment professionals also conducted in 2022 predicted that (ESG) investments will more than double in the next three years. Public concerns about pandemics, climate change, and the abuse of natural resources are driving investors toward sustainable businesses and destroying old ones—such as unfair wages, investment in fossil fuels, and unsustainable farming and manufacturing methods. By providing a holistic view of their practices, businesses participating in ESG initiatives can influence investment decisions and enable investors to choose a company that offers a sustainable future with a low-risk profile.

Improves financial performance

ESG not only makes a business attractive to investors, but can also improve a business's overall financial performance. Even small sustainability efforts – such as going paperless, recycling or upgrading to energy efficiency – can improve your business bottom line and return on investment. To keep pace with ESG programs, companies must track key metrics—such as energy consumption, raw material consumption, and waste treatment—that can ultimately lead to lower energy bills and lower costs. Companies that comply with ESG-related regulations are also less exposed to fines, penalties and other business risks, which positively affects their bottom line. For example, in 2020, food and beverage company Nestlé announced that it would invest up to \$2.1 billion by 2025 to switch from conventional plastics to recycled plastics for food. The change is expected to help Nestlé reduce its carbon footprint and reduce compliance costs – especially in regions with stricter rules against the use of plastic packaging.

Builds customer loyalty

In a 2021 survey conducted by Accenture of more than 25,000 consumers in 22 countries, 50% reported adjusting their priorities when purchasing products as a result of the COVID-19 pandemic. These customers are willing to pay more for brands that align with their values and are more loyal to organizations that treat people well. Today's socially conscious consumers want to know what the businesses they support are doing for the greater good. Companies that



adhere to ESG principles can attract and retain more customers by clarifying and effectively communicating their (ESG) efforts to customers.

It stabilizes the company's operations

Companies that invest in ESG initiatives can maintain and adapt to the ever-changing landscape. For example, businesses that properly integrate ESG principles into their core operations are better able to identify cost-saving opportunities and enjoy lower energy consumption, reduced resource wastage, and overall lower operating costs. While ESG reporting is currently only mandated for publicly traded companies in some jurisdictions, it appears to be the case for the rest of the corporate world as well. Companies that ignore ESG policies now may face legal, regulatory, reputational and compliance issues later.

3. RESULTS AND DISCUSSION

Relevant challenges associated with environmental issues pose significant threats not only to the environment but to humanity as a whole. The active integration of principles of environmental responsibility has long transcended the confines of mere reduction of ecological footprint, evolving into a key component of a successful strategy in the context of modern business and societal development.

With a perpetual and escalating demand from legislative bodies and the public for adherence to sustainable development principles, companies are compelled to increasingly focus on their social responsibility and environmental concerns. As noted by (Titenkov, 2020; Ghisellini et al., 2016) in their research regarding Environmental, social, and governance (ESG) issues generate specific concerns for various sectors of the country's economy with the aim of promoting sustainable development.

The term ESG stands for Environmental, Social, Governance, constituting a set of criteria used to assess the sustainability and ethical impact of a company or investment. In 2021, investments in ESG exceeded the \$1.6 trillion mark, with \$143 billion directed in the fourth quarter alone. According to Bloomberg Intelligence, it is anticipated that by 2025, global assets in the ESG sphere will reach \$50 trillion, compared to the current \$35 trillion, \$30.7 trillion in 2018, and \$22.8 trillion in 2016.

Enterprise subsystems dependent on ESG cover up various functional areas subject to evaluation concerning their influence on corporate sustainability and social responsibility. Notable among them are production, financial, human resources, marketing, innovative, and managerial subsystems, each constituting an integral part of the overall functioning of a company (IIRC, 2021)

The production subsystem comprise processes related to the manufacturing and delivery of products, with sustainability assessments taking into account environmental impact (e.g., atmospheric emissions, energy and water consumption, waste disposal) and social responsibility (e.g., employee rights, supplier relationships).

The financial subsystem, concentrating on financial management processes, evaluates sustainability in terms of adherence to accounting and tax regulations, long-term stability, and investment risk (Eccles & Serafeim, 2013).

The human resources subsystem pertains to the management of human resources, with sustainability assessments covering impacts on social responsibility (e.g., employee rights, protection against discrimination) and effectiveness (e.g., knowledge, skills, and employee motivation).

The marketing subsystem focuses on product promotion and customer relationships, with sustainability evaluation addressing issues of social responsibility (e.g., consumer rights, ethical marketing practices) and sales effectiveness (e.g., customer loyalty, product competitiveness).

The innovative subsystem encompasses processes related to the development of new products and technologies. Within the framework of sustainability assessment, considerations include environmental impact (e.g., emissions reduction, environmentally friendly technologies) and social responsibility (e.g., accessibility of products and technologies).

The management subsystem, covering processes governing the overall management of the company, undergoes sustainability evaluation concerning its influence on social responsibility (e.g., ethical standards, transparency in decision-making) and management efficiency (e.g., innovation, adaptability, risk assessment; ESG Audit Risk Reporting).

The assessment of the current effectiveness of ESG-dependent subsystems necessitates an in-depth scrutiny of financial metrics, including indicators such as profit, profitability, and dividends. Operational performance metrics, encompassing productivity, product quality, and comprehensive stakeholder satisfaction (encompassing both customers and employees), are integral to this analysis. This rigorous examination extends beyond mere financial (accounting) statements and production reports, incorporating information gleaned from sustainability reports or corporate responsibility reports. Given that only a holistic assimilation of these quantitative and qualitative datasets can facilitate sound conclusions regarding the ongoing efficacy and performance level of ESG-dependent company subsystems, a nuanced approach is imperative. This entails a sophisticated integration of information from financial reports, production records, and sustainability reports to furnish a refined and comprehensive assessment. (Frenken, 2017)

Conducting a well-rounded review of a company's activities provides a thorough understanding of its current standing in terms of compliance with ESG requirements and the effectiveness of various subsystems. This perception serves as the foundation for informed decision-making and strategic planning aimed at enhancing both ESG compliance and the overall efficiency of critical organizational subsystems.

The evaluation of risks associated with ESG-dependent subsystems should span an exhaustive examination of internal and external factors capable of influencing all crucial aspects of the company's operations. Internal factors may include the absence of an ESG risk management system, inefficient resource utilization, inadequate assessment of social and environmental consequences, and so forth. External factors could involve legislative changes, risks associated with climate change, shifts in consumer preferences, and other external influences. (GRI, 2021; SASB, 2020)

Simultaneously, identifying key reserves for enhancing the efficiency of ESG-dependent subsystems arises from assessing the performance of the subsystems themselves. However, during the identification of key reserves, it is essential to consider potential risks and barriers that could impede the implementation of planned improvements. Such risks may include, among other things, limited production capacity to maintain operational intricacies at the current level or to increase production volume, the necessity for a change in business models, or a shortage of qualified personnel. Anticipating these challenges, companies can proactively develop strategies aimed at mitigating potential negative aspects and outcomes.

Following the identification of key reserves and potential risks, prioritizing their implementation becomes crucial, as prioritization is decisive for the effective allocation of resources and the systematic implementation of improvements. This can be achieved through the creation of a priority matrix. This procedure not only allows for the identification of ESG factors exerting the maximum impact on business operations but also positions those factors with the highest likelihood of negative influence. Information sources at this juncture extend to integrated reports, sustainability disclosures, alongside scrutinizing media coverage and publications.

In culmination, the synthesized outcomes of the evaluative process and strategic prioritization lay the groundwork for a meticulously crafted ESG strategy. This strategic

blueprint encapsulates pivotal avenues for enhancement, risk mitigation stratagems, and the temporal contours of execution. Harmonizing the ESG strategy with the fundamental tenets of the business not only empowers companies to proactively elevate their sustainability profile but also enables adept navigation within the dynamic realm of responsible and ethical business practices.

ESG strategy transcends a mere blueprint for a sustainable business model; it embodies a complex mosaic aligning the interests of stakeholders with financial success, social well-being, and ecological prosperity. This document delineates a suite of specific initiatives, covering potential adjustments to both ESG-dependent systems and internal management systems, as well as the range and quality of the products or services rendered. Various tools, such as target costing, may be enlisted during this phase.

An indispensable component for the success of ESG transformation is its organic integration into the overarching corporate strategy, seamlessly woven into the business plan and the operational fabric of the company. Simultaneously, the strategy must be clearly formulated and communicated to all stakeholders within the organization and external stakeholders. (Güney, 2021)

As previously noted, the identification of potential areas for improvement within ESG subsystems allows for the discernment of reserves to enhance a company's performance in line with sustainable development principles. To achieve this, a thorough examination and analysis of information pertaining to the organization and functioning of each ESG subsystem are imperative.

For instance, within the environmental subsystem, these areas could encompass the reduction of emissions of pollutants, enhancement of energy efficiency, or the adoption of more environmentally friendly materials. In the social subsystem, initiatives may focus on improving working conditions for employees, elevating education levels, enhancing healthcare accessibility for local populations, and mitigating discrimination and inequality.

In the process of delineating prospective domains for enhancement, it is imperative to meticulously account for the interests of all stakeholders, including clientele, investors, workforce, suppliers, and the broader community. This comprehensive approach is instrumental in formulating an efficacious ESG strategy tailored to the multifaceted needs of stakeholders, thereby fostering the sustainable evolution of the corporate entity.

The identification of potential areas for refinement within ESG subsystems necessitates, as an initial step, an in-depth analysis of ESG risks. Subsequent phases entail a sophisticated stakeholder analysis, benchmarking against industry best practices, a thoroughgoing examination and analysis of internal processes, and an evaluative appraisal of the prevailing performance metrics of the corporate entity.

The scrutiny and evaluation of ESG risks linked to the transgression of sustainable development principles serve to pinpoint domains susceptible to potential lapses and inaccuracies. Executing such an endeavor entails the comprehensive collection and analysis of data pertaining to the company's operational facets vis-à-vis each ESG factor. This encompasses a spectrum of information, ranging from emissions of deleterious substances into the environment, utilization of energy and resources, waste management practices, to the company's stance on social responsibility, workers' rights, corporate governance, and the attendant risks entwined with its products and services, among other operational dimensions.

Following the data analysis, potential risks associated with each specific ESG factor can be identified. Subsequently, it is imperative to assess the probability of occurrence for each of these risks, as well as the scale of potential damage. Risk assessment can be conducted through qualitative, quantitative, or a combined methodology.

Based on the results of the risk analysis, an action plan is developed to mitigate the risks correlated with the ESG factors. This plan may include both corrective actions for already existing risks and preventive measures to prevent the emergence of new risks in the future.

Stakeholder analysis represents a pivotal juncture in the strategic management of ESG (Environmental, Social, Governance) risks, signifying the discernment of multifaceted interests and requisites across diverse stakeholder cohorts. The ambit of this analysis extends inclusively to internal stakeholders—encompassing employees, managerial cadres, and proprietors—and external stakeholders, encompassing clientele, investors, regulatory bodies, and non-governmental entities.

A myriad of methodological approaches are available for the execution of stakeholder analysis, including but not limited to surveys, interviews, and focus groups. Subsequent to the accrual of pertinent data, it is judicious to undertake an exhaustive scrutiny of the organization's ESG initiatives, scrutinizing them against industry peers' benchmarks and preeminent practices. This comparative evaluative exercise serves the purpose of pinpointing the domains wherein the enterprise excels, potential hazards latent in its trajectory, and indispensably, areas mandating refinement. This methodological apparatus furnishes corporations with the acuity required to remain cognizant of evolving trends, facilitating iterative adjustments in their modus operandi for ESG integration through a discerning evaluation of extant tools and attendant outcomes.

It is imperative to underscore that the comprehensive benchmarking procedure against best practices serves as a valuable mechanism for unearthing innovative approaches and sustainable solutions capable of enhancing the company's competitiveness and stakeholder satisfaction. The evaluation of the company's current operations encompasses social, environmental, and economic dimensions and can be executed through the application of diverse tools, such as Key Performance Indicators (KPIs), Life Cycle Assessment (LCA), resource consumption analysis, social impact assessment, social audits, among others.

Key Performance Indicators (KPIs), tailored to ESG criteria to gauge the company's efficiency and performance, can be extended to include metrics addressing waste utilization, the adoption of renewable energy sources, and reductions in greenhouse gas emissions. Life Cycle

Assessment (LCA) indicators serve to scrutinize the environmental footprint of a product across its entire life cycle, offering nuanced insights into enhancements spanning production, transportation, utilization, and disposal.

The appraisal of social impact involves a comprehensive evaluation of the company's influence on society across various tiers: local, regional, and potentially national. This encompasses social investments, corporate responsibility, and initiatives dedicated to supporting local communities.

The evaluation of the potential impact of ESG transformations on subsystem operations should encompass economic, social, and environmental facets. This entails a thorough assessment of both immediate and long-term consequences, considering elements like resource efficiency, costs associated with waste disposal, employee and customer satisfaction, emissions reduction, and the overall environmental footprint. Such a holistic approach ensures an in-depth understanding of the ramifications and advantages tied to ESG transformation.

In the context of contemplating transformative shifts within a company to attain ESG objectives, a thorough analysis of associated risks is indispensable. This enables the company to make strategic decisions concerning the nature and execution of these changes. For instance, transitioning to environmentally sustainable technologies may necessitate substantial investments, potentially impacting the company's short-term profitability. Additionally, there may be socially oriented risks, such as an increase in layoffs or deteriorating working conditions.

In this regard, an in-depth analysis of the potential impact of ESG transformation on the efficiency of all enterprise subsystems should facilitate well-founded decision-making regarding the implementation of changes and their methodologies. It also aids in identifying aspects that may be prudent to abstain from.

4. CONCLUSION

As we observe, in the contemporary economic milieu, the integration of sustainable development principles has become an indispensable and non-negotiable aspect of competitive prowess, exerting influence not only on individual enterprises but also on the macroeconomic fabric of entire nations. The prevailing trajectory of globalization in economic dynamics presages an imminent escalation in the salience accorded to ESG (Environmental, Social, and Governance) principles. Notably, a discernibly growing cohort of Russian enterprises is navigating a trajectory characterized by a profound and intricate fusion of sustainable development objectives seamlessly interwoven into the fabric of their overarching strategic frameworks. Concurrently, the governmental apparatus persists in meticulously devising regulatory frameworks intricately interlinked with the foundational tenets of sustainable development.

Against this backdrop, it becomes manifestly apparent that organizations harboring aspirations to ascend to the vanguard of their respective industries are progressively cognizant of the pivotal significance attached to the seamless integration of environmental responsibility into the very sinews of their operational paradigm.

The comprehensive measures delineated heretofore collectively aspire to transcend the realms of mere procedural compliance, seeking to bolster the efficacy of ESG subsystems. This augmentation, nuanced in its approach, endeavors to fortify the company's resilience across the intricate tapestry of social, environmental, and economic dimensions. It is this holistic and systemic amelioration that, in its quintessence, not only serves to heighten stakeholder satisfaction but also to forge an enduring and sustainable business model, encapsulating the very essence of the economic entity's fundamental purpose.

ACKNOWLEDGMENTS

The article is drafted and funded in fulfillment of the Russian Ministry of Science and Higher Education of Russia in the field of scientific activity state assignment No. FSSW-2023-0003 "Methodology for adapting public and corporate finance to the principles of green economy".

REFERENCES

- Buliga, R. P., & Safonova, I. V. (2022). Business audit in ESG format: the dialectics of the development of basic verification categories. *Accounting. Analysis. Audit.* 2022;9(4):6-20. <https://doi.org/10.26794/2408-9303-2022-9-4-6-20>
- Corporate Knights. (2021). Global 100 Index. Corporate Knights Inc. <https://www.corporateknights.com/reports/2021-global-100/>
- Eccles, R. G., & Serafeim, G. (2013). The Performance Frontier: Innovating for a Sustainable Strategy. *Harvard Business Review*, 91(5), 50-60. <https://hbr.org/2013/05/the-performance-frontier-innovating-for-a-sustainable-strategy>
- ESG Audit Risk Reporting: How To. <https://www2.deloitte.com/us/en/pages/audit/articles/esg-audit-risk-reporting-how-to.html>
- Frenken K. (2017), Political economies and environmental futures for the sharing economy *Philos. Trans. A Math. Phys. Eng. Sci.*, 375, 2095



GRI (2021). Sustainability Reporting Standards. Global Reporting Initiative.
<https://www.globalreporting.org/standards/>

How to Make an ESG Report. <https://www.esgthereport.com/what-is-esg/how-to-make-an-esg-report/>

IIRC. (2021). The Integrated Reporting Framework. International Integrated Reporting Council.
<https://integratedreporting.org/resource/integrated-reporting-framework/>

MSCI ESG Research LLC. (2021). MSCI ESG Ratings. MSCI Inc. <https://www.msci.com/esg-ratings>

Ghisellini P, Cialani C, Ulgiati S. (2016). A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems *J. Clean. Prod.*, 114, 11-32

SASB. (2020). SASB Standards. Sustainability Accounting Standards Board.
<https://www.sasb.org/standards/>

Güney T. (2021) Renewable energy and sustainable development: evidence from OECD countries *Environ. Prog. Sustain. Energy*, 40 (4), 89-94.

Jamalpour, H., & Yaghoobi-Derab, J. (2022). A review of the philosophy of aesthetics and art based on theoretical and methodological considerations. *Revista de Investigaciones Universidad del Quindío*, 34(S2), 426-435.

Jamalpour, H., & Derabi, J. Y. (2023). Aesthetic Experience, Neurology and Cultural Memory. *Passagens: Revista Internacional de História Política e Cultura Jurídica*, vol. 5, no. 2, pp. 340-348,
<https://doi.org/10.15175/1984-2503-202315208>

Nurhajati, Y., Suharman, H., Sueb, M., & Fitrijanti, T. (2023). Effect of the anti-fraud policy towards reducing public e-procurement corruption using the ability of internal audit forensic accounting techniques. *Economic Annals-XXI*, 203(5-6), 82-88. doi: <https://doi.org/10.21003/ea.V203-10>

Shariati, A., Azaribeni, A., Hajighahramanzadeh, P., & Loghmani, Z. (2013). Liquid-liquid equilibria of systems containing sunflower oil, ethanol and water. *APCBEE procedia*, 5, 486-490. *Susminingsih* (2023). Influence of income, education and religious rituals on life quality. *Economic Annals-XXI*, 203(5-6), 76-81. doi: <https://doi.org/10.21003/ea.V203-09>

Titenkov, A. (n.d.). Verification (audit) of ESG reporting. Why and how.
https://gaap.ru/articles/Verifikatsiya_audit_ESG_otchetnosti_Kak_i_zachem/

Understanding ESG Audits: Checklist and Best Practices.
<https://tax.thomsonreuters.com/blog/understanding-esg-audits-checklist-and-best-practices/>

World Economic Forum. (2020). Measuring Stakeholder Capitalism: Towards Common Metrics and Consistent Reporting of Sustainable Value Creation. World Economic Forum.
<https://www.weforum.org/reports/measuring-stakeholder-capitalism-towards-common-metrics-and-consistent-reporting-of-sustainable-value-creation>

Wu B., Fu Y., Wang Z., Liu X., Wang Z. (2022). Consortium blockchain-enabled smart ESG reporting platform with token-based incentives for corporate crowdsensing. *Computers & Industrial Engineering*. 172(1):108456.