

## Research Article

# Environmental, Social, and Governance (ESG): Roles and Strategies to Improve the Performance of the Indonesian Insurance Industry

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**Abstract.**

The objective of this research is to understand the role of environmental, social, and governance (ESG) in improving the financial performance of insurance companies in Indonesia. A qualitative, library study method was employed, Research results show (1) the role of ESG as definers of competitive advantage, in improving performance, and guaranteeing the sustainability of the company in the future; and (2) the strategy of insurance companies in Indonesia with respect to ESG is to run business with sustainable financial principles and create environmental-based service products. The implications of this study are that the application of ESG principles to insurance companies in Indonesia is expected to drive government programs to implement sustainable development governance (SDGs) in sustainable finance. The novelty of this research is its emphasis on environmentally-based sustainable financial principles.

**Keywords:** social and environmental governance, roles, strategies, performance, insurance

## 1. Introduction

Global warming, environmental damage, poverty, unemployment, and other social issues have become demands of many parties, including companies operating in countries with climate change [1].

These companies are then charged with reporting their economic, environmental, and social impacts publicly in their annual reports as a form of sustainable development. In the eyes of investors, especially institutional investments, considering information related to environmental and social impact becomes crucial as a signal to measure the sustainability and ethical impact of companies in the framework of investment decisions [2].

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Candidate investors should focus on the company's performance, as it plays an important role in assessing the financial condition of the company. This assessment helps investors identify companies that make higher returns than others, thus enabling investors to make the right decisions in investing their money. One indicator of financial performance measurement can be done through the ratio of return on assets (ROA) by comparing the value of net profit to the total value of assets [3].

Companies may provide or disclose this information, either as part of an annual report or specifically in sustainability reports, corporate social responsibility reports, or environmental, social, and governance reports (ESG). In many countries, submission of sustainability reports is mandatory. In Indonesia, the submission of sustainability reports to financial services institutions (FSAs), issuers, and public companies is gradually mandatory. The Financial Services Authority (FSA) through Regulation No. 51/POJK.03/2017 mandated the submission of such reports for issuers with intermediate assets in the fiscal year 2022, issuers with small assets by the fiscal years 2024, and the general banking group Bank Based on Enterprise Activities (BUKU) 3, BUKU 4, and foreign banks earlier in the financial year 2019. The Indonesian Stock Exchange (BEI) is also taking the initiative to require, by 2022, all companies listed in the EIB to report sustainability [4].

Through the Sustainability Report showing the disclosure of sustainability information about the company's long-term operations openly and freely, shareholders and stakeholders can assess that the company has carefully considered all aspects of its sustainability and survival. This will increase the level of confidence of investors who invest their investments and users of other financial statements [5]. As a form of moral responsibility to society, insurance financial institutions are required to take greater care of the environment by implementing environmental, social, and governance strategies (ESG). The rate of return on investment and the profitability ratio of a company are directly related to the level of optimization of the company's ESG role so that it can continue to grow sustainably.

The impact of a company's concern for a well-managed environment will improve financial performance. The internal governance mechanisms studied have variable moderation effects on the relationship between financial performance and environmental performance and have important implications for corporate executives, environmental activists, policymakers, and regulators according to insights taken from agency theory, resource dependence, stakeholders, and legitimacy [6].

In order to maintain national economic growth and guarantee long-term financial stability, responsible and sustainable business practices need to be encouraged by financial institutions through changes in attitudes and practical actions to environmental and social issues such as investment decisions and corporate decisions, in addition to financial measurement considerations. Based on the above background, various strategies are needed to improve the performance of the financial services industry of life insurance companies in Indonesia through the implementation of environmental, social, and governance (ESG) in a planned, measured, and sustainable manner. Therefore, the writing of this paper aims to show how ESG business strategy is used in insurance companies as well as to study the role of ESG in improving the financial performance of insurance firms in Indonesia.

## 2. Literature Review

### 2.1. Stakeholders

The theory of the stakeholder has been widely heard since 1982 all over the world, where this theory is often associated with projects to enhance business and capitalism, ranging from designing new narratives for business to making the world a better place for everyone with more responsibility to develop ideas for stakeholders. In other words, the theory of stakeholders is a picture of the parties who are responsible for the company [7]. The theory of stakeholders states that the existence of a company is not independent of its role as a stakeholder with different backgrounds and interests [8]. Another definition of stakeholder is the party that requires a report of social responsibility form legitimacy of the owner and other interests related to the development of the company [9].

Stakeholders are the most important part of a company that has a particular interest and is directly related to the future of the company.

### 2.2. Environment Social and Governance (ESG)

ESG disclosure is a tool used to measure progress by disclosing information on the impact of environmental, social, and organizational governance practices, where disclosures are non-commercial, in order to evaluate the performance of the company during its operational activities as well as its impact [10].

ESG is a corporate investment standard where integration and implementation of corporate policies are in line with environmental, social and governance concepts. Where environmental criteria include energy consumption, waste, pollution, conservation of natural resources, and protection of marine flora and fauna. Whereas social criteria cover correlation of the company with external parties such as the public, suppliers, investors, buyers, legal entities, and others that have relationships with the company [4]. ESG can also be understood as an open attempt to gather non-economic information through a policy of disclosure of responsibility for environmental, social, and governance activities with the aim of improving the value and performance of the company [11].

ESG in insurance companies is expected to be an integral concept in presenting and disclosing all company information in both environmental, social, and governance activities to create good performance and potential in the future.

### 2.3. Role

The terminology of “role” as a sociological concept first emerged in 1930-1940 through the works of classical thinkers such as George Herbert Mead, Ralph Linton, and Jacob Moreno. In the perspective of interactionism, symbolism focuses on the role of individual factors, the evolution of roles through social interaction, as well as the various forms of cognitive concepts through which social actors understand and interpret behavioral guidelines for themselves and others [12]. The role generally focuses on one of the most important characteristics of social behavior, namely the fact that humans behave in different and predictable ways depending on the situation and social identity they have [13].

A role is a set of feelings, words, and actions that form a unique pattern of relationship shown by an individual to another individual. The role played by an individual in his life is influenced by the perception of the individual towards himself and others. Therefore, to be able to play a good role, it is necessary to understand his own role and the role of others. This understanding is not limited to actions but to the factors that influence it, namely feelings, perceptions, and attitudes [14]. The role here is to subordinate the movements and effects that will affect the application of environmental, social, and governance (ESG) to insurance companies in Indonesia.

## 2.4. Strategy

Strategy is the method used by an organization in decision-making, implementation, and evaluation of everything that has been done well to the company's long-term goals [15]. The definition of strategy is a big plan that is elaborated comprehensively to show how a company achieves its vision, and that vision has been promoted through several previously agreed missions [16].

Strategy is an absorption of the Greek word strategy, which contains the art of being a general. In the field of defence, strategy as a formula of doctrine is generally a process of planning of the highest leaders that focuses on the long-term goals of an organization, accompanied by the preparation of a way or effort to those goals [17].

The strategy will provide guidelines for insurance companies in Indonesia in environmental, social, and governance (ESG) implementation in order to improve performance and guarantee the company's future fundamentally and conceptually.

## 2.5. Performance

The best initial step we should take, both as workers, businessmen, and individuals, is to make a judgment of ourselves. Why do we have to make self-evaluations, both as slaves and as workers? The term performance is sometimes used by experts to assess the performance of human resources. Employee performance is a pretext of work because of the real performance (behavior) produced by each human resource (employee) as a performance of work [18].

Performance assessment can also be understood as an organizational process that evaluates the performance of employees in performing work [19]. Performance is the "existence of talents and abilities, or a tangible result of a person's competence, on the side of a position" result achieved due to the function of a particular position over a certain period of time [20]. In the assessment of the company's performance broadly can be seen from three aspects [11]:

### 2.5.1. Operational performance

By disclosing non-financial information to stakeholders, the company will be able to motivate itself to increase profits. It will attract the interest of investors to insert its modalities in the company.

The role of ESG is as a tool for obtaining legitimacy from the public and stakeholders of the company, besides that the other role of the ESG was to improve the working capital and operational company.

### **2.5.2. Financial performance**

With the implementation of ESG, theoretical legitimacy suggests that the company will strive to build relationships with both the environment and with social institutions and governments to gain recognition for its activities.

### **2.5.3. Market performance**

The company's market performance can be seen from the responses of external stakeholders interested in its operations. It can improve its reputation and generate positive feedback from various parties because of the company's commitment to responsibility and being able to align itself with the needs of stakeholders.

By measuring the implementation of its strategy and its environmental and social impact, governance shows that the company adheres to industry ethical standards and the established policy framework.

## **2.6. Insurance**

Insurance is a mutual agreement between the members of the community to guarantee and support each other by collecting money and creating a joint financial savings fund that is used as a fund of relief for someone in distress [21].

In the developing world of insurance, where insurance is known not only in the conventional economic system but also in the Islamic economic system, in Islamic economy, Takaful is known as one of the Syrian non-bank financial institutions active in the field of security assurance or risk liability [22].

Insurance becomes the guarantor institution for the maintenance of assets in the future, either for individuals or companies, in order to provide protection and prevention from the bad things that will happen.

### 3. Research Methods

Research is an attempt to understand literary phenomena systematically. Literature and phenomenology are closely linked [23]. Looking at the nature of the problems raised in this research, we use qualitative research methods, in which quality research is not presented in numbers but in words.

In line with the character of a qualitative approach, where methods that emphasize data analysis are observed as descriptively written words, by observing and analyzing studies on the role of management and green business in achieving sustainable development. Library research is a type of research that is carried out by reading, exploring, and studying books and sources of writing that are closely related to the issues discussed [24]. To the extent that the approaches used in reading and writing are conceptual approaches, then in this section is done an expression of the concepts and theories used based on the literature available.

The process of data analysis has basically begun to work since the data collection was intensively carried out. Analysis includes the presentation and interpretation of data performed qualitatively and conceptually. Context refers to things that relate to the structure of the work, while construction is the building of the concept of analysis [25]. Mapping existing data and analysis can make it easier for researchers to find accurate information in environmental, social, and governance (ESG) findings on roles and strategies in improving the performance of insurance companies in Indonesia.

### 4. Results

Research that shows the application of environmental, social, and governance (ESG) has been applied to many companies both in Indonesia and elsewhere. The research of Natalia Jeffa Simanjuntak, Olivia Yunita Arifin, and Angel Samaria focused on sustainability reports and environmental audits as well as risks on open enterprises at PT Indofood Success Makmur showed that (1) the launch of the sustainability report of PT Indofood Sukses Makmur was supported by a sustainable approach to support the implementation of the Sustainable Development Goals in order to 17 sustainability goals by 2030. (2) The sustainability practices at PT Indofood Suses Makmur are carried out through an approach that focuses on triple bottom line, which consists of social, environmental, and economic aspects and is guided by the vision and mission and commitment of the company's sustainability [26].

Environmental, social, and governance disclosure (ESG) is an important part of disclosing corporate performance because of its impact on the operational performance and market performance of large corporations. However, sometimes environmental, Social, and Governance factors do not affect corporate financial performance [11].

The research revealed, partially or individually, that the independent variables described by environmental, social, and governance disclosures had no influence on the profitability rates projected by ROA and ROIC. However, the three variables simultaneously influenced the corporate profitability levels with continuing significance [10].

It is also important in the implementation of ESG (environmental, social, and governance) to know the perception of Generation Z towards investment in the Jakarta Islamic Index, where financial literacy, subjective norms, and attitudes have a significant influence on investment interests based on the environment, the social and the governance (ESG). However, religiousness failed to moderate Gen Z's interest in investing in the Jakarta Islamic Index (JII) [27].

Relationship between Environmental Performance, Mining Expenditure, and Financial Performance: Evidence from Indian Manufacturing Companies A content analysis has been carried out to estimate environmental performance scores. The study includes measurements of financial performance, namely accounting-based return on equity and market-to-book value ratio, as dependent variables. The control variables used in this study are ownership structure (promoter ownership, institutional ownership and foreign ownership), company size, leverage ratio, company age, and sales ratio to assets. The impact of a mixed ownership structure on the financial performance of a manufacturing company [28].

Environmental performance, sustainability, governance, and financial performance: Evidence from heavily polluting industries in China” shows that the average size of the board of directors and board meetings are positively linked to the environmental performance of Chinese corporations, while board independence and gender diversity are positive to the performance of China's corporate environment. Further evidence suggests that the internal governance mechanisms studied have different moderating effects on the relationship between financial performance and environmental performance. Our findings have important implications for corporate executives, environmental activists, policymakers, and regulators. The relationship between environmental performance, R&D expenditure, and enterprise performance: by using simultaneous



equations, the enterprise's performance model is positively correlated with environmental performances, but R & D expenditures are negative correlations with environmentally performance [29]. Effects of Environmental, Social, Governance (ESG) and Retention Ratio on Share Return with Company Value as Moderation Variables: environmental, social & governance (ESG) and retention ratio have no influence on share return [4].

The difference with the research now lies in the type of targeted company, which now focuses on application to insurance companies in Indonesia by looking at the roles and strategies that will be used to realize environmental, social, and governance (ESG).

## 5. Discussion

### 5.1. Environmental, Social, and Governance (ESG) role in insurance business

The role of environmental, social, and governance (ESG) in business is broadly divided into three (three), i.e.:

#### 5.1.1. Role in determining competitive advantage

To ensure business smoothness without interfering with the social and environmental aspects of life, governments pursue essential environmental, social, and governance elements in company operations through sustainable investment. The same applies to the insurance business as in the ESG guarantee guidelines as well as the Objectives and Principles of Sustainable Insurance as described by the Project Team Member Companies in 2022.

The objectives of this guide are as follows: (1) to provide recommended guidelines to insurance companies in developing approaches to assessing the potential impact of ESG risk on mortgage risk on life and health insurance from the perspective of individual and group; (2) to highlight the potential materiality of certain ESG risks against mortgages on health and life insurance and to provide examples as considerations in the management of such risks; (3) to alleviate the growing concerns of stakeholders in society (e.g., NGOs, investors, governments) about ESG hazards and to detail the specificity of insurance; (4) to demonstrate the valuable role played by the insurance industry in the global economy and society and to strengthen the industry's contribution

to sustainable development through the renewal of collective coverage for individuals based on road to finance.

### **5.1.2. Role improving performance**

The role of Environmental, Social, and Governance (ESG) in improving the financial performance of insurance companies in Indonesia is expected to have a commitment to providing environmental, social, and corporate governance based products, such as green building, environmental damage, earthquakes, agriculture, and others. (1) The insurance industry can provide ESG/ESG guarantees to insurance in line with the objectives and Principles of Sustainable Insurance (PSI) in accordance with the sustainable financial programmes of the Indonesian government; (2) through the ESG / ESG criteria, large institutional investors will be available to various sizes and variations of investment to enhance their business management role; and (3) the demand for investment instruments that implement ESG or ESG aspects will be increasing so as to provide an opportunity for insurance companies to improve their performance. ESG in insurance can also be used as a tool to measure company performance based on achieved performance. A company must know its performance as a form of assurance of future sustainability.

### **5.1.3. The role of ensuring the sustainability of the company in the future**

The role of ESG integration is also capable of reducing reputational risk, meeting customer expectations as well as regulations, creating long-term value and providing access to sustainable capital and market opportunities.

One sure step in ensuring the company's sustainability in the future is to anticipate Greenwashing. Simply put, greenwashing can be understood as an act of making claims without a clear basis about a business product so that the product is considered more environmentally friendly and far superior to its competitors. Businesses that use this strategy usually claim that their product is made of environmentally-friendly materials or passes through a more energy-efficient process.

There are some concrete steps being taken to anticipate the outbreak of greenwashing. Several states in the United States have filed lawsuits against fossil fuel companies. Besides, there are environmental organisations that have filed a complaint about Chevron's fake ads to the U.S. Federal Trade Commission. The effort is expected

to bring a new spirit to the fight against greenwashing, which is becoming increasingly controversial by large corporations.

## 5.2. ESG strategy in insurance companies

The ESG strategy in insurance companies is to run business with sustainable financial principles and create environmental-based service products. It is the same as described in the ESG Implementation Guide by the Financial Services Authority (OJK, 2015), the insurance company strategy in Indonesia in environmental, social, and governance (ESG) implementation to improve performance among others.:

- Designed to harmonize and support the vision, corporate strategy mission

- develop a topic or theme to form a building block for strategies that can be associated with the sector (risks sector, issues, issues and specialized ESG practices, other management practices such as risk management, new product development, or executive management remuneration schemes)

- develop goals and targets that support each topic or topic

- formulate guidelines, directives, and action plans of each subject or topic to integrate those goals into core business activities

- develop a policy framework for ESG to translate risk identification and sense assessment as well as guidance on risk, operational process, approval process, and day-to-day business implementation

In this context, all mitigation strategies that balance the ESG risk criteria through inclusion must be thoroughly evaluated in terms of their impact on the collective and insurance as a whole [26].

Strategies that have been further formulated are integrated into business processes such as product development and capital allocation to deal with some of the following:

- (1) creating operational models and organizational structures;
- (2) soft controls like value standards in risk management;
- (3) ESG integration with capital allocation and allocation processes;
- (4) customer strengthening.

At the end of the phase of this strategy is the implementation of monitoring and evaluation of strategy choices and implementation strategies to assess the effectiveness of activities. The strategy of an environmental, social, and governance (ESG) insurance company in Indonesia is to run business with sustainable financial principles and create environmental-based

service products. This can be seen from the various applications of sustainable finance principles to existing insurance companies in Indonesia.

Sustainable financial implementation is carried out using the following principles: (1) Responsible investment principles; (2) sustainable business strategies and practices; (3) principles of social and environmental risk management; (4) governance; (5) informative communication; (6) inclusive; (7) priority sector development; and (8) coordination and collaboration principles.

Sustainable financial implementation is based on an action plan based on the following priorities: (1) Development of sustainable financial products and/or services, including enhanced portfolios of financing, investments, or placement in financial instruments or projects consistent with their implementation; (2) Development of the internal capacity of financial services institutions; (3) Adaptation of organizational, risk management, governance, and/ or operational procedures standards of financial institutions in accordance with the principles of its implementation.

## 6. Conclusions and Suggestions

The role of Environmental, Social, and Governance (ESG) in improving the financial performance of insurance companies in Indonesia can be used as a determinant of competitive advantage, can improve performance, and guarantee the sustainability of companies in the future. The strategy of insurance firms in Indonesia with Environmental, social, and governance (ESG) is to run business with sustainable financial principles and create environmental-based service products.

Implications of this study are that the application of environmental, social, and governance principles to insurance companies in Indonesia is expected to drive government programmes to implement sustainable development governance (SDGs) in the area of sustainable finance. The novelty of this research is its emphasis on environmentally-based sustainable financial principles.

## References

- [1] Leontinus G. Program Dalam Pelaksanaan Tujuan Pembangunan Berkelanjutan (Sdgs) Dalam Hal Masalah Perubahan Iklim Di Indonesia. *J Samudra Geogr.* 2022;5(1):43–52.
- [2] Gonçalves A, Silva C. Looking for sustainability scoring in apparel: A review on

- environmental footprint, social impacts and transparency. *Energies*. 2021;14(11):3032.
- [3] Inawati WA, Rahmawati R. Dampak Environmental, Social, Dan Governance (ESG) Terhadap Kinerja Keuangan. *J Akad Akunt*. 2023;6(2):225–41.
- [4] Godary HF, Tambun S. Pengaruh Environmental, Social, Governance (ESG) dan Retention Ratio Terhadap Return Saham Dengan Nilai Perusahaan Sebagai Variabel Moderating. *Juremi J Ris Ekon*. 2021;1(2):159–72.
- [5] Chandra M, Augustine Y. Pengaruh green intellectual capital index dan pengungkapan keberlanjutan terhadap kinerja keuangan dan non keuangan perusahaan dengan transparansi sebagai variabel moderasi. *J Magister Akunt Trisakti*. 2019;6(1):45–70.
- [6] Zahroh BM, Hersugondo H. Pengaruh Kinerja Environmental, Social, Dan Governance Terhadap Kinerja Keuangan Dengan Kekuatan CEO Sebagai Variabel Moderasi (Studi Pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia Periode 2015-2019). *Diponegoro J Manag*. 2021;10(4).
- [7] Freeman RE. My own book review. *Strategic management: A stakeholder approach. M@n@gement*. 2022;25(1):67–9.
- [8] Nurkasanah N. Faktor-Faktor Yang Mempengaruhi Pengungkapan Corporate Social Responsibility (CSR) (Studi Empiris pada Perusahaan Pertambangan yang Terdaftar di BEI tahun 2014-2018). 2020;
- [9] Meutia I. *Menata Pengungkapan CSR Pada Bank Islam (Pendekatan Teori Kritis)*. Deepublish; 2021.
- [10] Ghazali A, Zulmaita Z. Pengaruh Pengungkapan Environmental, Social, and Governance (ESG) Terhadap Tingkat Profitabilitas Perusahaan (Studi pada Perusahaan Sektor Infrastruktur yang Terdaftar di Bursa Efek Indonesia). In 2022.
- [11] Nisa AZ, Titisari KH, Masitoh E. Pengaruh Pengungkapan Environmental, Social, dan Governance terhadap Kinerja Perusahaan. *Al-Kharaj J Ekon Keuang Bisnis Syariah*. 2023;5(5):2400–11.
- [12] Mead GH. *Mind, self & society*. University of Chicago Press; 2015. <https://doi.org/10.7208/chicago/9780226112879.001.0001>.
- [13] Valsiner J, Rudolph L. Who shall survive? Psychology that replaces quantification with qualitative mathematics. *Emerging methods in psychology*. Routledge; 2017. pp. 121–40.
- [14] Auliani R. Peran bank sampah induk dalam pengelolaan sampah Kota Medan. *J Abdidas*. 2020;1(5):330–8.
- [15] Sudarni AA, Irwansyah R, Supriadi YN, Yusuf SY, Sijabat FN. *Manajemen Strategik (Teori dan Analisis) [Internet]*. Seval Literindo Kreasi; 2023.

- [16] Christian Y, Qi KO. Penerapan K-Means pada Segmentasi Pasar untuk Riset Pemasaran pada Startup Early Stage dengan Menggunakan CRISP-DM. *JURIKOM J Ris Komput.* 2022;9(4):966–73.
- [17] Haque-Fawzi MG, Iskandar AS, Erlangga H, Sunarsi D. *STRATEGI PEMASARAN Konsep, Teori dan Implementasi.* Pascal Books; 2022.
- [18] Suryani NK, Sugianingrat IA, Laksemini KD. *Kinerja Sumber Daya Manusia: Teori, Aplikasi dan Penelitian.* Nilacakra; 2020.
- [19] Blanchard K, Johnson S. *The new one minute manager.* Manjul Publishing; 2016.
- [20] Kane AA. Unlocking knowledge transfer potential: Knowledge demonstrability and superordinate social identity. *Organ Sci.* 2010;21(3):643–60.
- [21] Ichsan N. *Asuransi Syariah Teori, Konsep, Sistem Operasional, Dan Praktik.* PT RAJAGRAFINDO PERSADA; 2020.
- [22] Asuransi Syari'ah Dan Asuransi Konvensional ZA. (Analisis Komperatif Teori Ekonomi Taqiyuddin An-Nabhani Dan Thomas Robert Maltus). *ISTIKHLAF J Ekon Perbank Dan Manaj Syariah.* 2020;2(2):82–97.
- [23] Endraswara S. *Metodologi Penelitian Fenomenologi Sastra.* 2021;
- [24] Zed M. *Metode penelitian kepustakaan.* Yayasan Pustaka Obor Indonesia; 2008.
- [25] Rahayu YS, Naja CD. Penerapan Artificial Intelligence Sebagai Inovasi Di Era Disrupsi Dalam Mengurangi Resiko Lembaga Keuangan Mikro Syariah. *WADIAH.* 2023;7(2).
- [26] Simanjuntak NJ, Arifin OY, Samaria A, Tewu MD. Sustainability Report dan Environmental Audit Beserta Risikonya Pada Perusahaan Terbuka (Studi Kasus: PT Indofood Sukses Makmur Tbk). *J Manaj RISIKO.* 2023;3(2):147–64.
- [27] Azhar JA, Kadua NCP, Safitri RD. Analisis Persepsi Generasi Z Terhadap Investasi Berbasis ESG (Enviromental, Social, and Governance) di Jakarta Islamic Index. *J Bus Manag Islam Bank.* 2(1):77–94.
- [28] Verma R, Sharma D, Priyanka. Priyanka. Relationship among environmental performance, R&D expenditure and financial performance: Evidence from Indian manufacturing firms. *Glob Bus Rev.* 2022;23(6):1316–35.
- [29] Wang MC, Chen Z. The relationship among environmental performance, R&D expenditure and corporate performance: Using simultaneous equations model. *Qual Quant.* 2021;:1–15.