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Green Finance, Green Revenue and Financial Performance of ASEAN Selected Industries: Governance, Risk, and Complience (GRC) as Mediator

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Abstract

Green finance practices are a trend as companies adopt eco-friendly initiatives to drive green revenue, yet the impact on financial performance remains uncertain due to the potential mediating role of governance, risk, and compliance (GRC). This study investigates how green revenue affects the financial performance of mining, plantation, and manufacturing firms across ASEAN, examining GRC's mediating effect. Utilizing 2018-2022 panel data, financial performance measured by ROA and ROE is the dependent variable, green revenue is the independent variable, and composite GRC score encompassing governance, risk management, and compliance as mediating variable. Panel regression and path analysis assess the mediating effect. Findings reveal a significant positive relationship between green revenue and financial performance, mediated by GRC practices. Green finance boosts financial performance, especially when complemented by robust GRC implementation. The research underscores integrating sustainability and governance into business strategies for enhanced financial performance. The results provide empirical evidence of green finance's financial benefits and highlight GRC's crucial role in strengthening this relationship.

Keywords
Green Finance, Green Revenue, Financial Performance, Governance Risk Compliance (GRC), Mediator.

1. Introduction

Sustainable investment or green finance has become an important spotlight in various economic discussions in recent years (Scholtens 2017, Sachs, Woo et al. 2019). The existence of green finance is not only part of the issues faced by the banking sector alone but has also spread to various other non-banking sectors (Campiglio, Dafermos et al. 2018). Green finance is not only intended for the banking sector but also for non-banking industries (Vincent, Maglasang et al. 2018). Green finance aims not only to contribute to economic development but also to efforts to balance the economy and environment in a more sustainable manner(Schoenmaker and Schramade 2018).

Sustainable investment or green finance has become an important spotlight in various economic discussions in recent years (Scholtens 2017, Thomas and Martínez 2021)The existence of green finance is not only part of the issues faced by the banking sector alone but has also spread to various other non-banking sectors (Campiglio, Dafermos et al. 2018). Green finance is not only intended for the banking sector but also for non-banking industries (Ng, 2018). Green finance aims not only to contribute to economic development but also to efforts to balance the economy and environment in a more sustainable manner (Schoenmaker and Schramade 2018).

The role of effective GRC can be an important factor in bridging the relationship between sustainable investment and company financial performance (Eccles, Ioannou et al. 2014).GRC can ensure that company investment and

operational practices are aligned with sustainability principles, thereby increasing investor confidence and impacting the improvement of financial performance (Cao Hoang Anh Le 2020, Boshnak 2021). Therefore, this study aims to examine the mediating role of GRC in the relationship between green finance and financial performance in non-banking industries in Indonesia (Du 2022, Hina Najam 2022).

Kyere and Ausloos (2019) conducted research on the relationship between corporate governance and financial performance in 252 companies in the United Kingdom listed on the London Stock Exchange (Kuhn 2022). This research was conducted to provide empirical evidence regarding the influence of corporate governance on company financial performance (Chien 2023). This study uses two indicators of financial performance, namely ROE and Tobin's Q, using cross-sectional regression analysis (Alfalih 2023, Li 2023). This study found that corporate governance has an uncertain influence on company financial performance. Where sometimes it has a negative, positive, or no influence at all (Tya Restianti 2018, Lulu Fan 2024).

conducted research on whether environmental, social, and governance issues have an influence on improving company financial performance. This research proves the relationship between ESG disclosure and its effect on company financial performance using the OLS method. This study revealed that most of the companies that carried out ESG reveal showed improvements in their financial performance. This shows that CSR strategies have an impact on company sustainability (Xie et al., 2018).

Several other studies on this topic have also been conducted by several researchers. Eccles and Klimenko (2019) argue that good corporate governance, especially top management's commitment to sustainability, is a key factor in developing business strategies oriented towards green revenue. Aguilera et al. (2018) say that effective governance practices, such as transparency and accountability, will encourage companies to implement environmentally friendly and sustainability-oriented business practices. According to Eccles et al. (2014), companies that generate green revenue tend to have lower risk profiles due to fewer negative impacts on the environment. Bansal and Desjardine (2014) argue that good risk management allows companies to identify, measure, and manage risks related to environmental, social, and governance (ESG) aspects effectively. Christmann (2000) also argues that compliance with applicable environmental regulations is a prerequisite for companies to be able to develop environmentally friendly products or services and generate green revenue. According to Testa et al. (2018), strong compliance with environmental regulations will help companies obtain certification and recognition for sustainable business practices, thereby increasing stakeholder trust.

Previous research has shown a positive relationship between green finance and company financial performance (Awadzie, Garr et al. 2023). The results show that green finance has a positive and significant effect on company financial performance. This means that the higher the level of adoption of green finance, the better the financial performance achieved by the company (David K. Ding 2021). This can be caused by several factors, including: Operational cost efficiency through the use of more environmentally friendly technologies and processes, Improved company reputation and brand image in the eyes of consumers and stakeholders who are increasingly aware of environmental issues, Easier access to green financing sources, such as green bonds and green loans, Competitive advantage through innovation in environmentally conscious financial products and services.

However, research examining the mediating role of GRC in this relationship, especially in non-banking industries in Indonesia, is still lacking (Sagarika, Nanda et al. 2023). Therefore, this study aims to fill this gap and provide a more comprehensive understanding of the role of GRC in supporting the implementation of green finance and improving financial performance in non-banking industries in Indonesia (Scholtens, 2017; Volz, 2018). This research focuses on the relationship between green finance practices, GRC dimensions (Governance, Risk, and Compliance), and company financial performance in non-banking industries in Indonesia (Eccles et al., 2014; Friede et al., 2015).

Green finance is an increasingly important concept in the context of business and environmental sustainability (Sachs et al., 2019). Green finance practices include the development of financial products and services that support environmentally friendly projects, environmental risk management, and capital allocation focused on green investments (Schoenmaker and Schramade, 2019). Meanwhile, GRC (Governance, Risk, and Compliance) acts as a fundamental factor that can influence the successful implementation of green finance (Aguilera et al., 2018; Bansal and DesJardine, 2014).

The governance dimension refers to the corporate governance structure, such as leadership, responsibility, and decision-making (Eccles and Klimenko, 2019). The risk management dimension includes the process of identifying, measuring, and mitigating risks associated with green finance (Christmann, 2000), while the compliance dimension relates to company compliance with applicable regulations and standards related to green finance practices (Testa et al., 2018).

The mediation analysis in this study reveals that the governance and compliance dimensions play an important role in mediating the relationship between green finance and financial performance (Lins et al., 2017; Margolis et al., 2009). This shows that good corporate governance and effective compliance with regulations related to green finance are important factors that can support the successful implementation of green finance and ultimately improve the company's financial performance (Galbreath, 2013; Orlitzky et al., 2003).

1.1 Objectives

This research has three main purpose that are interrelated. First To empirically study the factors that influence the positive relationship between green finance and financial performance in the non-banking sector in ASEAN., Second To empirically prove that GRC (Governance, Risk, and Compliance) acts as a mediator in the relationship between green finance and financial performance in non-banking companies in ASEAN. And Three To provide an empirical description of the role of GRC in influencing investment decisions and financial performance of non-banking companies in ASEAN.

2. Literature Review

The Theory of the Firm comprises a set of economic theories that describe, explain, and predict the nature of companies, including their existence, behavior, structure, and relationship with markets. The Theory of the Firm include a business enterprise is a combination of individuals, physical and financial assets, and information systems. Individuals directly involved in the company include shareholders, management, employees, suppliers, customers, and the community (stakeholders). Company activities include the use of limited resources, payment of taxes, job creation, and production of goods and services for society. Company responsibilities extend beyond just shareholders or lenders (Adinehzadeh et al., 2018; Nabiha et al., 2018).

This theory provides a framework for understanding the fundamental nature and purpose of firms in economic systems, their internal dynamics, and their relationships with external stakeholders and markets (Hyunchul Choi 2018). It helps explain why firms exist as distinct entities from markets and how they function in the broader economic landscape (Pham Xuan Hoa 2024)**.**

Companies always consider their ability to remain productive or sustainable in the long term (Horne and Jr., 2008). The concept of sustainability has evolved, with many businesses now viewing it as meeting present needs without compromising future generations' ability to meet their own needs. Companies have no choice but to act in a socially responsible manner. The goal of companies as producers of individual and social goods and services is to maximize shareholder wealth by being responsible corporate entities. Shareholder wealth and even company survival greatly depend on social responsibility (Horne and Jr., 2008). There are many different interpretations of stakeholder theory and concept development. Harrison and Wicks (2013) argue that there are four factors experienced by company stakeholders: a. Actual goods and services b. Organizational fairness c. Perception of opportunity cost.

James C. Van Horne (1971) in "Fundamentals of Financial Management" defines financial performance as a picture of a company's financial condition over a certain period, covering aspects of fund collection and distribution, typically measured by indicators of capital adequacy, liquidity, and profitability. Describes financial performance as the periodic determination of an organization's and its employees' operational effectiveness based on pre-established goals, standards, and criteria (Bei 2023). The Indonesian Institute of Accountants (2007) defines it as a company's ability to manage and control its resources. Viaws financial performance as a representation of a company's financial condition during a specific period, involving aspects of fund collection and distribution, usually measured by indicators of capital adequacy, liquidity, and profitability (Kruse, Mohnen et al. 2020). States that financial performance is a picture of a company's success achievement, interpreted as the results achieved through various activities (Salih, Sangawi et al. 2023). Defines financial performance as the results or achievements accomplished by company management in carrying out its function of managing company assets effectively over a certain period (Mirza 2023).

In essence, financial performance is a multifaceted concept that encompasses various aspects of a company's financial health, efficiency, and effectiveness. It serves as a vital tool for companies to assess their financial standing, make informed decisions, and strategize for future growth and sustainability(Xu, Sun et al. 2020, Nenavath 2023).

ROA is a profitability ratio often highlighted in financial statement analysis as it's considered capable of showing a company's success in generating profits (Creswell and Poth 2016). It measures a company's ability to generate profits in the past and project them into the future (Freeman 2010, Pietrzak 2022). "Assets" refers to the company's entire assets, obtained from both equity and debt capital (S Sreenath 2022, Leitão 2023). Brigham and Houston (2001) define ROA as the ratio of net income to total assets, measuring return on total assets after interest and taxes. Horne and Wachowicz (2005) state that ROA can measure overall effectiveness in generating profit through available assets and the ability to generate profit from invested capital. The formula for ROA according to Brigham and Houston (2001) is:

ROA = Net income available to common stockholders / Total assets

A higher ROA indicates better company performance, as it reflects a higher return on investment. Refers to ROA as Net Earning Power Ratio or Rate of Return on Investment (ROI) (Rondhi 2020). Raiyan, et al (2020) define ROA as the ratio of net income to total assets. Pirmatua Sirait (2017) describes ROA as a ratio that shows a company's ability to generate profit from available resources (assets). Defines ROA as a ratio showing how much assets contribute to creating net income (Broadstock, Chan et al. 2021). V Wiratna Sujarweni (2017) provides the following formula for ROA:

ROA = Earnings Before Interest and Taxes / Total Assets

Refers to the organizational or corporate governance structure, processes, responsibilities, and practices used by leadership to direct and control the organization. Good governance is key to achieving organizational goals effectively and efficiently, and ensuring compliance with applicable laws and regulations. Aspects include leadership, decision-making, accountability, transparency, and risk management. The goal is to ensure the organization operates effectively and efficiently in achieving its objectives.

Risk refers to potential events or conditions that can negatively impact the achievement of organizational goals (Amarante 2020). Risk management is a systematic process of identifying, analyzing, evaluating, controlling, and monitoring risks (Brandis 2019).The goal of risk management is to minimize negative impacts and maximize beneficial opportunities for the organization (Ding, Guo et al. 2024).

Compliance involves adhering to and following applicable laws, regulations, standards, and policies (Tariq 2023, Javeed 2024). Important for ensuring the organization operates in accordance with regulations and is not involved in illegal or unethical practices (Wei Qiua 2024). Covers compliance with government regulations, industry standards, contracts, and internal organizational policies and procedures (Yin 2023).

GRC (Governance, Risk, and Compliance) is an integrated approach to managing governance, risk, and compliance in an organization (Mahendra 2022). Effective GRC implementation can help organizations achieve their goals while minimizing risks and ensuring compliance with applicable regulations (Spanaki and Papazafeiropoulou 2013). Allows organizations to manage these aspects cohesively and efficiently (Zammit 2021). Through the GRC approach, organizations can comprehensively identify, manage, and monitor risks, and ensure regulatory compliance (Tambotoh 2021). GRC integration can improve decision-making, reduce duplication of efforts, and increase visibility across the organization. According to the GRC Forum (2020) governance is the action of externally directing, controlling, and evaluating an entity, process, or resource (Apeh, Hassan et al. 2023). Risk is the impact of uncertainty on achieving objectives, or in other words, a deviation from what is expected, which can be positive and/or negative (Papazafeiropoulou and Spanaki 2016). Compliance is the ability to demonstrate fulfillment of a requirement, rule, and applicable law. This integrated approach to GRC provides a comprehensive framework for organizations to manage their operations, risks, and regulatory obligations effectively (Javeed 2024).

3. Methods

Type of Data: This research uses secondary data in the form of panel data. Panel data is a combination of cross-sectional and time-series data. Sources of Data: The data for this research is obtained from multiple sources: a. Financial reports of companies b. Annual sustainability reports of companies c. ESG (Environmental, Social, and Governance) data provider databases d. Information related to corporate governance, risk management, and compliance.

Population and Research Sample

The population are companies in plantation sector, mining sector, and manufacturing sector in Indonesia, Singapore, Malaysia, Thailand and Philippines. The sample for this research is categorized by country and sector, as shown in the following Table 1:

Tabel 1. Population Based on Sectors in 5 ASEAN Countries in 2024

Countries	Manufacturing/ Industry Companies	Plantation Companies	Mining, Resources Companies
Indonesia	93	43	71
Malaysia	296	34	32
Singapore	177	0	36
Thailand	139	77	80
Philipines	73	0	26

Source: Researcher's Compilation (2024)

In order to test the relationship between one independent variable and two dependent variables, multiple or multivariate regression analysis can be used. Multiple regression analysis in this study models the relationship between the independent variable and two dependent variables simultaneously.

$$Y_1 = \alpha_1 + \beta_1 X + \varepsilon_1 \; Y_2 = \alpha_2 + \beta_2 X + \varepsilon_2$$

Here, Y_1 and Y_2 are the first and second dependent variables, X is the independent variable, α_1 and α_2 are intercepts (values of Y_1 and Y_2 when $x = 0$), β_1 and β_2 are regression coefficients showing the expected change in Y_1 and Y_2 for each change in X, and ε_1 and ε_2 are errors or disturbances.

Multicollinearity Test

There are several methods that can be used to detect the presence of multicollinearity in the research model, including:

1. Observation of high R^2 index but no statistically significant variables: If the regression model shows a high R^2 index but there are few or even no statistically significant variables, this can be an indication of multicollinearity. This shows that these variables are strongly interrelated and it is difficult to identify the contribution of each variable separately.
2. Correlation analysis between variable coefficients: If there is a very high correlation between variable coefficients in the regression model, this indicates a strong relationship between these variables. This can indicate the presence of multicollinearity in the model.
3. Testing using VIF (Variance Inflation Factor) values: A common method used is to look at VIF values. VIF measures the extent to which the variance of regression coefficients is affected by multicollinearity. If a variable's VIF value exceeds a certain threshold, usually 10, it can indicate the presence of multicollinearity in the regression model.

In this study, VIF values will be used to determine if there is a presence of multicollinearity in the research model being studied. If a variable's VIF value exceeds the set threshold, steps need to be taken to address the multicollinearity problem in the regression model. To test the relationship between one independent variable and two dependent variables, multiple or multivariate regression analysis can be used. Multiple regression analysis in this study models the relationship between the independent variable and two dependent variables simultaneously.

$$Y_1 = \alpha_1 + \beta_1 X + \varepsilon_1 \; Y_2 = \alpha_2 + \beta_2 X + \varepsilon_2$$

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4. Data Collection

the data collection technique used in this research is the documentation technique, **vailability of Secondary Data:** Quantitative causative research typically relies on available secondary data, such as company financial reports, government statistical data, and third-party databases. The documentation technique efficiently collects these data, **Time and Cost Efficiency:** Collecting secondary data through documentary studies is faster and more cost-effective than collecting primary data through surveys or interviews, especially for large populations or vast data requirements, **Data Accuracy:** Secondary data from official sources are usually highly accurate and have undergone verification and validation processes, **Broad Data Coverage:** Quantitative causative research often requires broad data coverage in terms of geography, time, and sample size. The documentation technique allows comprehensive data collection from various sources, **Ease of Analysis:** Secondary data from documentary studies is typically structured, facilitating quantitative data processing and analysis.

5. Results and Discussion

5.1 Numerical Results

Findings reveal a significant positive relationship between green revenue and financial performance, mediated by GRC practices. Green finance boosts financial performance, especially when complemented by robust GRC implementation. The research underscores integrating sustainability and governance into business strategies for enhanced financial performance. The results provide empirical evidence of green finance's financial benefits and highlight GRC's crucial role in strengthening this relationship.

Measuring Model Design (Outer Model Test)

The criteria for assessing the outer model, the standardized loading factor limit > 0.5 or < -0.5 that all indicators proposed in the research model can be used, Table 2.

Table 2. Goodness of Test

	R Square	R Square Adjusted
GRC	0,54	0,2916
ROA	0,55	0,3025
ROE	0,53	0,2809

Source: Data processed by the author.

Green accounting and return on assets based on the results of regression testing model 2, return on assets has an R-Square value of 0.54 this indicates that the model is strong, meaning that 5.4% while the remaining 94.6% influenced by factors other than Green Revenue, Green Cost and Green capital Structure.

Hypothesis output test model fit indices, Table 3.

Table 3. Model Fit Indices

	Direct Effect		Indirect Effect
	Path Coefficients; P-Value (Criteria P<0.05)		
	GRC	ROA	ROE
GF	0,048;0,453	0,224; 0,001	-0,062;0,036*
GR	0,01;0,917	0,025; 0,894	-0,007;0,909
ROA	-0,278; 0,002		
SG	0,068;0,671		
Size	-0,486;0,002		
DAR	0,375;0,004		
DER	-0,202;0,388		

Source: SmartPLS Data processing

5.2 Graphical Results

Research Model is presented in Figure 1.

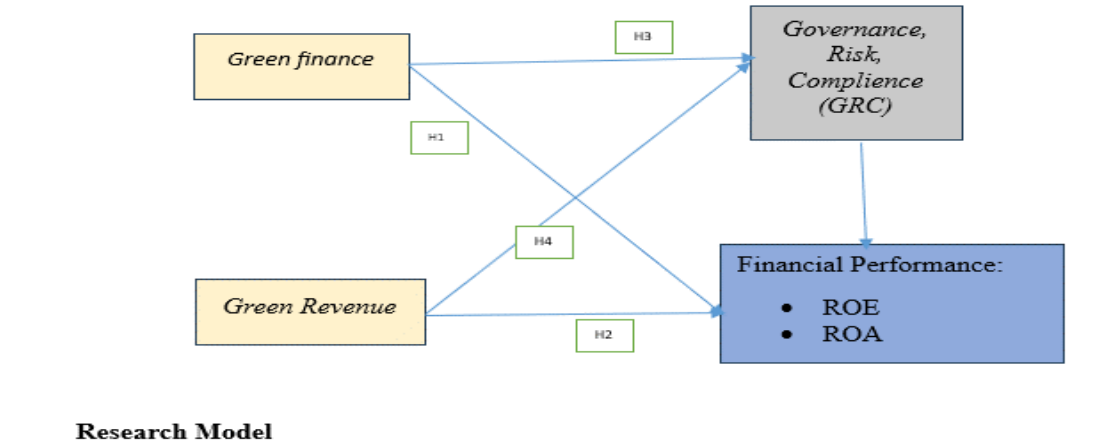

Figure.1 Research Model
Source: Data processed by the author.

5.4 Validation

1. Hypotheses that directly test the relationship between green finance and green revenue on company financial performance. This is based on the argument that these practices can increase efficiency, reduce costs, and improve reputation and consumer preferences, which ultimately have a positive impact on profitability and financial performance. The hypotheses are:

   H1: Green finance positively influences the financial performance of non-bank companies in ASEAN.
   H2: Green revenue positively influences the financial performance of non-bank companies in ASEAN.

2. Hypotheses that test the mediating role of GRC in the relationship between green finance, green revenue, and company financial performance. The argument is that good GRC implementation can strengthen the positive impact of green finance and green revenue on financial performance through the creation of a good control

environment, risk reduction, and compliance with sustainability-related regulations in ASEAN. The hypotheses are:

H3: Governance, risk, and compliance (GRC) mediates the effect of green finance on the financial performance of non-bank companies in ASEAN.

H4: Governance, risk, and compliance (GRC) mediates the effect of green revenue on the financial performance of non-bank companies in ASEAN.

These hypotheses form a comprehensive framework for investigating the direct effects of green finance and green revenue on financial performance, as well as the potential mediating role of GRC practices in these relationships. This approach allows for a nuanced understanding of how sustainability practices and governance structures interact to influence financial outcomes in the context of non-bank companies in ASEAN.

5. Conclusion

The results provide empirical evidence of green finance's financial benefits and highlight GRC's crucial role in strengthening this relationship. The study concludes that green finance practices, characterized by eco-friendly initiatives to generate green revenue, positively impact the financial performance of companies in the mining, plantation, and manufacturing sectors across ASEAN. This positive relationship is significantly mediated by governance, risk management, and compliance (GRC) practices.

Using panel data from 2018-2022, the study measures financial performance through ROA and ROE, with green revenue as the independent variable and a composite GRC score as the mediating variable. Panel regression and path analysis reveal that robust GRC practices enhance the positive effects of green revenue on financial performance.

The findings highlight the importance of integrating sustainability and good governance into business strategies to achieve better financial outcomes. This research provides empirical evidence of the financial benefits of green finance and underscores the critical role of GRC in strengthening the relationship between green finance and financial performance.

References

Abdullah, H., Tursoy, T. Capital structure and firm performance: evidence of Germany under IFRS adoption. Review of Managerial Science. 15(2), 89-94, 2021.

Adeyene, Y., B., Kammoun, I., Wahab, S., N., A., A. Capital structure and speed of adjustment: the impact of environmental, social and governance (ESG) performance. Sustainability Accounting, Management and Policy Journal. 12(1).,355-463, 2021.

Alfalih, A. A., ESG disclosure practices and financial performance: a general and sector analysis of SP-500 non-financial companies and the moderating effect of economic conditions." Journal of Sustainable Finance and Investment **13**(4): 1506-1533, 2023.

Amarante, J. G. M. C. d., Governance, Risk and Compliance: Concerns in Sustainability Research Agendas. 12(1).,376-424, 2023.

Apeh, A. J., GRC strategies in modern cloud infrastructures: a review of compliance challenges." Computer Science and IT Research Journal 4(2): 111-125, 2023.

Awadzie, D. M., Does corporate social responsibility promote the financial performance of the telecom industry in Ghana?" Cogent Business and Management 10(1): 2184743, 2023.

Bei, J., Renewable energy resources and sustainable development goals: Evidence based on green finance, clean energy and environmentally friendly investment, 2023.

Boshnak, H. A., Corporate governance mechanisms and firm performance in Saudi Arabia." International Journal of Financial Research 12(3): 446-465, 2021.

Brigham, E. F., and Houston, J. F., *Fundamentals of financial management*. South-Western Cengage Learning.12(1). 832,2023.

Bansal, P., and DesJardine, M. R. Business sustainability: It is about time. Strategic Organization, 12(1), 70-78. 2014

Brandis, K., Governance, risk, and compliance in cloud scenarios, 2013.

Broadstock, D. C., The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China." Finance Research Letters 38: 101716, 2023.

Christmann, P. Effects of "best practices" of environmental management on cost advantage: The role of complementary assets. Academy of Management Journal, 43(4), 663-680. 2000

Campiglio, E., et al., Climate change challenges for central banks and financial regulators." Nature climate change **8**(6): 462-468, 2018.

Cao Hoang Anh Le, Y. S., Stephen Taylor, Executive Compensation and Financial Performance Measures: Evidence from Significant Financial Institutions." Australian Accounting Review **Vol. 00**: 19, 2000.

Chien, F., Green finance, renewable energy investments, natural resources, and sustainable economic advancements in China: evidence from pre-post COVID-pandemic, 2023.

Creswell, J. W. and C. N. Poth , Qualitative inquiry and research design: Choosing among five approaches, Sage publications, 2023.

David K. Ding, Y. E. C., "Executive Compensation and Firm Performance in New Zealand: The Role of Employee Stock Option Plans." Risk Financial Manag: 19, 2023.

Ding, Y.-J., The influence of ESG performance on credit risk and financial distress: an empirical study on Taiwan corporate sustainability." Applied Economics: 1-17, 2023.

Du, M., Can Green Finance Policies Stimulate Technological Innovation and Financial Performance? Evidence from Chinese Listed Green Enterprises., 2022.

Eccles, R. G., The impact of corporate sustainability on organizational processes and performance." MANAGEMENT SCIENCE **60**(11): 2835-2857, 2023.

Eccles, R. G., and Klimenko, S. The investors revolution processes and performance. Management Science, 60(11), 2835-2857. 2019.

Farza, K., Ftiti, Z., Hliouia, Z., Louhichi, W., Omri, A. Does it pay to go green? The environmental innovation effect on corporate financial performance. 13(2).244-354, 2023.

Freeman, R. E., Strategic management: A stakeholder approach, Cambridge university press, 2010.

Gajdosikova, D., Valaskova, K. A Systematic Review of Literature and Comprehensive Bibliometric Analysis of Capital Structure Issue. Management Dynamics in the Knowledge Economy, 10(3), 210-224. , 2010.

Grizales, E., D., Fillgas, J., G. Does green innovation affect the financial performance of Multilatinas? The moderating role of ISO 14001 and RandD. Journal of Business Strategy and the Environment.156-225, 2020.

GRC Forum Indonesia. 2020. Panduan Mencapai Model Keunggulan (*GRC*). Edisi 1.0. Hasanah, N., and Hariyono, S.. Analisis Implementasi Green Financing Dan Kinerja Keuangan Terhadap Profitabilitas Perbankan Umum Di Indonesia.pp. 126-156, 2020.

Hina Najam, J. A., Susana Alvarez Otero, Eyup Dogan , Towards green recovery: Can banks achieve financial e and significantly shaping green recovery, 2020.

Hyunchul Choi, H. S., and Changwan Kim, Predicting Financial Distress of Contractors in the Construction Industry

Javeed, S. A. (2024). Digital finance and corporate green investment: A perspective from institutional investors and environmental regulations., 2018.

Khan. M., A., Riaz, H., Ahmed, M., Saeed, A., Does green finance really deliver what is expected? An empirical perspective. Borsa Istanbul Review 22-3, 586-593, 2021.

Klash, I. The impact of environmental performance on capital structure and firm performance: the case of Turkey. Society and Business Review Vol. 16 No. 2, pp. 255-277. 2021. DOI 10.1108/SBR-11-2020-0138

Kruse, T., Green revenues, profitability and market valuation: Evidence from a global firm level dataset." 2020

Kuhn, B. M., Sustainable finance in Germany: mapping discourses, stakeholders, and policy initiatives." Journal of Sustainable Finance and Investment **12**(2): 497-524. 2022.

Lusiana, M., Haat, M., H., C., Saputra, J., Yuslika, M., Y., Muhammad, Z. A Review of Green Accounting, Corporate Social Responsibility Disclosure, Financial Performance and Firm Value Literature. Proceedings of the 11th Annual International Conference on Industrial Engineering and Operations Management Singapore, March 7-11, 2021.

Leitão, J., Green finance sources in Iberian listed firms: A socially responsible investment approach. 2023

Li, G., Does green finance promote agricultural green total factor productivity? Considering green credit, green investment, green securities, and carbon finance in China, 2023.

Lulu Fan, D. W. Natural Resource Efficiency and Green Economy: Key Takeaways on Clean, 2024

Mahendra, I. , Information Technology Challenges for Integrated Governance, Risk and Compliance (GRC). APICS 2022 - 2022 1st International Conference on Smart Technology, Applied Informatics, and Engineering, Proceedings**:** 79-84. 2022

Miroshnychenko, I., Barontini, R., Testa, F. Green practices and financial performance: A global outlook. Journal of Cleaner Production 147 page 340-351. 2017.

Mirza, N., The role of fintech in promoting green finance, and profitability: Evidence from the banking sector in the euro zone. 2023.

Nenavath, S., Impact of green finance and fintech on sustainable economic growth: Empirical evidence from India. 2023

Nedopil, C., Dordi, T., Weber, O. The Nature of Global Green Finance Standards—Evolution, Differences, and Three Models. Sustainability 13, 3723. 2021, https://doi.org/10.3390/ su13073723

Ngatno, Apriatni, E., P., Youlianto, A. Moderating effects of corporate governance mechanism on the relation between capital structure and firm performance. Cogent Business and Management 8: 1866822. 2021. https://doi.org/10.1080/23311975.2020.1866822

Nguyen, T., H., H., Elmagrhi, M., Ntim, C., G., Wu, Y., Environmental performance, sustainability, governance and financial performance: Evidence from heavily polluting industries in China. Business Strategy and the Environment Journal 30:2313–2331, 2021. DOI: 10.1002/bse.2748

Papazafeiropoulou, A. and K. Spanaki, Understanding governance, risk and compliance information systems (GRC IS): The experts view." Information Systems Frontiers 18: 1251-1263. 2016.

Peizi, W., Ramzan, M. Do corporate governance structure and capital structure matter for the performance of the firms? An empirical testing with the contemplation of outliers. Plos One. 12, 165; 2019.

Przychodzen, W., Bezares, F., G., Przychodzen, J. Green information technologies practices and financial performance – The empirical evidence from German publicly traded companies. Journal of Cleaner Production. pp. 1002-1014

Popecsu, C., R., G., Poescu, G., N. An Exploratory Study Based on a Questionnaire Concerning Green and Sustainable Finance, Corporate Social Responsibility, and Performance: Evidence from the Romanian Business Environment. Journal of Risk and Financial Management. 12, 162; 2019.

Pham Xuan Hoa, V. N. X., Nguyen Thi Phuong Thu, Determinants of Renewable Energy Consumption in the Fifth Technology, 2024.

Ranoowah, R., K., and Seetanah, B. The moderating and mediating effects of corporate governance and capital structure on firm performance: empirical evidence from an emerging market. Managerial Finance, Volume 45, No. 9, pp. 1377-1399. 2023.

Rahman, M. A., Sarker, B. R. and Escobar, L. A., Peak demand forecasting for a seasonal product using Bayesian approach, *Journal of the Operational Research Society*, vol. 62, pp. 1019-1028, 2011.

Riyanti, Y., E., Murwaningsari, E. Corporate Governance Role as Moderating Green Intellecual Capital and Green Accounting Influence on Sustainable Finance Implementation. Devotion Journal of Research and Community Service, Vol. 4 No. 8, 2023.

Revolutions: Evidence from ASEAN Countries. Journal of Open Innovation : Technology, Market and Complexity 10(100190). This study aims to investigate the factors of renewable energy consumption in the fifth Technology

Pietrzak, M., Can financial sector distress be detected early? ." Borsa istanbul Review **22** (6): 13. 2022

Rondhi, M., Factors affecting farmers' participation in contract farming: The case of broiler sector in Indonesia. 2020

Sewpersadh, N., S. A theoretical and econometric evaluation of corporate governance and capital structure in JSE-listed companies. Journal of Corporate Governance, VOL. 19 NO. 5 2019, pp. 1063-1081.

Syah, S., Q., A., Lai, F., W., Shad, M., K., Jan, A., A. Developing a Green Governance Framework for the Performance Enhancement of the Oil and Gas Industry. Journal of Sustainability 14, 3735. 2022.

S Sreenath, A. M. A., Nofri Yenita dahlan, K Sudhakar , A decade of solar PV deployment in ASEAN: Policy landscape and recommendations." Energy report **8**: 460-469. 2022

Sachs, J., Handbook of green finance: Energy security and sustainable development." (No Title). 2019

Sagarika, M. a., Emerging research trends in green finance: A bibliometric overview." Journal of Risk and Financial Management **16**(2): 108. 2023

Salih, R. H., The Impact of the Current Ratio and Profitability Ratio on Solvency Ratios: An Applied Study in the Tehran Stock Exchange." 2023.

Schoenmaker, a. D. and W. Schramade, Principles of sustainable finance, Oxford University Press. 2018

Scholtens, B. , Why finance should care about ecology." Trends in Ecology and Evolution **32**(7): 500-505. 2017

Spanaki, K. and A. Papazafeiropoulou, Analysing the governance, risk and compliance (GRC) implementation process: primary insights." 2013

Tambotoh, J. J. C., Process Mining in Governance, Risk Management, Compliance (Grc), and Auditing: A Systematic Literature Review. 2021

Testa, F., Boiral, O., and Iraldo, F. Internalization of environmental practices and institutional complexity: Can stakeholders pressures encourage greenwashing? Journal of Business Ethics, 147(2), 287-307. 2018.

Tariq, A., Role of green finance, environmental regulations, and economic development in the transition towards a sustainable environment. 2023

Thomas, L.-S. a. and E. A. Martínez, Ecological finance theory: New foundations." International Review of Financial Analysis **75**: 101741. 2021.

Tya Restianti, L. A., The Effect of Financial Ratios on Financial Distress Conditions in Sub Industrial Sector Company." Accounting Analysis Journal **7**(1): 9. 2018

Van Horne, J. C., and McDonald, J. G., Dividend policy and new equity financing. *The Journal of Finance*, *26*(2), 507-519. 1971.

Velte, P., Stawinoga, M., Lueg, R. Carbon performance and disclosure: A systematic review of governance-related determinants and financial consequences. Journal of Cleaner Production (2020), 14(3), 2019.

Vincent, F. Y., Shelf space allocation problem under carbon tax and emission trading policies." Journal of Cleaner Production 196: 438-451. 2018

Wang, I., Rehman, A., U., Xu, Z., Amjad, F., and Rehman, S., U. Green Corporate Governance, Green Finance, and Sustainable Performance Nexus in Chinese SMES: A Mediation-Moderation Model. Sustainability 2023, 15, 9914. 2023.

Widnyana, W., Wiksuana, G., B., Artini, L., G., S., Sedana, I., B., P. International Journal of Productivity and Performance Management, Vol. 70 No. 7, 2021, pp. 1837-1864. 2020.

Wei Qiua, Y. B., Siyu Rend, Jingxia Chaie, Shang Gaoe, Haitao Wue, Research on the Impact of Idustry−Finance Cooperation on Green Total, 2024.

Factor Productivity from the Perspective of Indirect Financing." Journal of Innovation and Knowledge **9**(100470).

Xu, X. L., The Effects of Environmental Management and Debt Financing on Sustainable Financial Growth in the Tourism Industry." Sage Open **10**(3): 2158244020948530. 2020

Yin, X., How does environmental regulation influence green technological innovation? Moderating effect of green finance. 2023

Zammit, C., A maturity evaluation of governance, risk management and compliance (Grc) within the maltese public sector1. 2021.

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