DIJEMSS:
Dinasti International Journal of Education Management and Social Science
E-ISSN: 2686-6331
P-ISSN: 2686-6358
https://dinastipub.org/DIJEMSS dinasti.info@gmail.com +62 811 7404 455
DINASTI PUBLISHER

DOI: https://doi.org/10.38035/dijemss.v7i4
https://creativecommons.org/licenses/by/4.0/

The Effect of Sustainable Production, Green Intellectual Capital, and Green Technology Innovation on Sustainable Finance with Green Strategic Management as a Moderating Variable

Sebastianus Laurens[1], Khomsiyah[2], Titik Aryati[3]
[1]Trisakti University, Jakarta, Indonesia, sebastianus221021914017@std.trisakti.ac.id
[2]Trisakti University, Jakarta, Indonesia
[3]Trisakti University, Jakarta, Indonesia

Corresponding Author: sebastianus221021914017@std.trisakti.ac.id[1]

Abstract: This study aims to examine the effects of sustainable production, green intellectual capital, and green technological innovation on sustainable finance, as well as the moderating role of green strategic management in these relationships. A total of 352 respondents from production companies in Indonesia were randomly selected and participated by completing the questionnaires. Each indicator item in each variable was assessed using an interval scale. The results show positive relationships between sustainable production, green intellectual capital, and green technological innovation with sustainable finance. The positive correlation between sustainable production and sustainable finance can be strengthened by green strategic management. However, green strategic management does not strengthen the relationship between green intellectual capital and sustainable finance, nor between green technological innovation and sustainable finance. This study has implications for production companies in Indonesia that are trying to implement environmentally friendly processes to reduce corporate risk. Innovation and guidance can be implemented for companies that are just starting sustainable production and towards achieving sustainable finance.

Keywords: Sustainable Production, Green Intellectual Capital, Green Technological Innovation, Sustainable Finance, Green Strategic Management

INTRODUCTION

The financial sector plays an important role as a driver of sustainability, so long-term financial management with consistent principles is needed (Ziolo et al., 2019; 2021). The Indonesian government, together with regulators and companies, has proactively adopted sustainability principles through environmental, social, and governance frameworks. Indonesia has committed to reducing greenhouse gas emissions as stated in the Nationally Determined Contribution (NDC), which was ratified through Law No. 16 of 2016. Indonesia's commitment to protecting the environment is also concretely manifested in the financial sector through a sustainable finance roadmap introduced in December 2014 and with the issuance of OJK regulation No. 51 / POJK.03 / 2017 on July 27, 2017 concerning the implementation of sustainable finance (SF) in Indonesia. The existence of OJK regulation No. 51 / 2017

encourages companies to support sustainable economic growth by balancing economic, social and environmental aspects. This sustainable contribution is reflected in the sustainability report to strengthen the Company's reputation in the eyes of the public and gain recognition for the company's environmental performance (Radhouane et al., 2018).

Malek & Desai's (2019) research shows that there is a positive relationship between sustainable production (SP) and company performance. Based on previous research, this study aims to improve the SP model that not only focuses on the environment but also considers the company's competitiveness. There are three factors that make this study important. First, Malek & Desai's (2019) model with the context of India is considered less relevant in Indonesia. In India, the service industry contributes 50% and the production industry contributes 18-20% of India's GDP. In Indonesia, the production industry actually contributes 30%-50% of Indonesia's GDP, with its mainstay sectors being automotive, petrochemicals and agriculture. In addition, India has a better environmental commitment, especially in renewable energy, compared to Indonesia. This study is expected to produce a SP model that is not only environmentally friendly but also competitive, in line with the increasing attention of investors to ESG factors (Kotsantonis et al., 2016). Second, the level of commitment to the environment in India is also different from that in Indonesia. Giwangkara (2021) stated that India's commitment to the environment is superior to Indonesia, especially in terms of renewable energy. In his research, it is explained that India is the country with the sixth largest installed capacity of renewable energy in the world, surpassing Norway, Japan and France. In Indonesia, readiness to carry out transformation is still far below neighboring countries in the Southeast Asian region. Through this research, it is hoped that a SP model will be available that is competitive so that it will be complete both in terms of its involvement in protecting the environment, but also has good competitiveness in the market. Integration in sustainable manufacturing is in line with SF where investor awareness of Environmental Social and Governance (ESG) factors is increasing in making investment decisions (Kotsantonis et.al, 2016).

The stakeholder theory (Freeman, 1984) was adopted by Chen (2006) who argued that environmental disclosure has an impact on the company. Further developments were adopted by many production companies resulting in green manufacturing (Digalwar, 2017) and in the following years the concept of green manufacturing changed to sustainable manufacturing (Malek & Desai, 2022). This concept is a production activity that uses processes with minimal impact on the environment, conserves resources and the environment, creates a safe environment for factory workers, communities, consumers and is financially secure (Malek & Desai, 2019).

SP practices are one of the significant environmental initiatives taken by the manufacturing industry to conserve the environment and improve the quality of life while carrying out production activities (Salwa et.al, 2017). Research on SP considering its impact on economic performance. Economic outcomes consist of profitability, market share, and productivity (Rao and Holt, 2005).

The implementation of SP practices is increasingly recognized as important to achieve a balance between economic growth and environmental sustainability (Ali et al., 2021; Haleem et al., 2023). Previous studies have shown that SP practices have a positive impact on economic performance (D'Angelo et al., 2022). SP practices improve economic performance and in turn encourage SF models (Abdul-Rashid et al, 2017; Paul, 2024). SP needs to be supported by SF activities so that operations and finances can support companies in long-term production. This creates the first research hypothesis that there is a positive influence between SP and SF.

Based on the RBV (Resource Based Value) theory, the key to a company having a competitive advantage lies in the effectiveness of utilizing company resources, some of which are used to achieve competitive advantage and others lead to superior long-term performance (Barney, 1991; Grant, 1991; Penrose, 1959; Wernerfelt, 1984). Chen (2008) in his research combined the RBV concept with Intellectual Capital and developed it into GIC which has three

dimensions, namely Green Human Capital, Green Structural Capital, and Green Relational Capital. This concept is the company's commitment to protecting the environment and then becomes the company's intangible assets. This is in line with the statements of Hart (1995), Chandra & Augustine (2019), and Lusmeida & Augustine (2022) that according to RBV, a company's intangible assets can be in the form of a very good company image or close relationships with stakeholders so as to produce sustainable competitiveness.

Research conducted by Chen (2008) shows that GIC is positively correlated with a company's competitive advantage, the more environmental knowledge employees have, the higher the company's competitive advantage. Sugiyanto's (2021) research on the effect of GIC on investor reactions for companies listed on the Indonesia Stock Exchange in 2014-2019 states that there is a significant positive influence between GIC and investor reactions. Investors' attention to a company's "green" activities is manifested through aligned financial products, such as green bonds, green ban king, and others. In line with this, Zahra et.al (2022) stated that GIC has a positive effect on green banking. Oktris et al. (2022) explained that from the intellectual capital sidegreen which plays a role in encouraging the establishment of environmental systems and procedures to improve environmental operations through systems, schedules, routine implementation and checking activities, codification and archiving of relevant knowledge related to the accumulation of employee experience and integrated with environmental issues.

GIC is related to the management and generation of knowledge in effectively communicating environmental issues that support employee productivity. Companies that focus on GIC will have the ability to face (environmental) challenges. Thus, this study aims to prove the influence of GIC on SF with the following hypothesis that there is a positive influence between GIC and SF. Research conducted by Veronesi (2009) shows that the implementation of technology carried out by companies gets responses from investors on the stock exchange because the implementation of new technology is considered to be able to increase production. The results of this study are a development of the Legitimacy Theory (Dowling & Pfeffer, 1975) which encourages companies to carry out their production processes in accordance with applicable regulations, one of which is regulations on the environment. To fulfill this, qualified technology is needed in the form of green techn.

GTI carried out by production companies can generate economic and social benefits and encourage sustainable corporate development. GTI creates a conducive environment to improve the company's sustainable performance (Xi & Zhao, 2022), and promotes the company's sustainable financial development (Huang et al., 2021). In addition, Zhang et al. (2023) showed that GTI has an effective mechanism to improve the financial structure of production companies. According to Lai (2019), GTI and technology innovation management are inseparable parts and have a positive impact on sustainable development and have an important role in these sustainability activities. Based on previous research, GTI brings good economic benefits to production companies by reducing resource consumption, increasing productivity, and reducing production costs. Economic benefits can be achieved by supporting environmentally friendly technology investments in production operations. GTI has also been shown to be closely related to the development of SF, with the higher the development of SF, the higher the GTI activities of a company (Zhu & Zou, 2022). Based on this, the following research hypothesis was created that there is a positive influence between GTI and SF.

Yang et al. (2015) expanded on the legitimacy theory introduced in 1975 by proposing the concept of green strategic management (GSM). This framework supports transformational initiatives and decisions aimed at enhancing environmental sustainability. By adopting a clear vision and well-defined strategy, companies can make more effective decisions aligned with their priorities, enabling them to deliver goods and services that meet global market demands.

Research conducted by Eiadat et al. (2008) shows that environmental innovation strategy (green innovation strategy) and pressure on environmental concerns can improve company

performance (business performance), and green innovation strategy can strengthen the influence of environmental pressure on company performance. In line with this, Babiak & Trendafilova (2011) and Olayeni (2021) stated that there is a relationship between being "green" (supporting environmental activities) and being economically successful because it is a competitive advantage for companies that apply the "green" concept.

According to prior research, it has been established that organizations must adopt green innovation to mitigate the environmental effects of their production processes, which includes innovations aimed at reducing waste, preventing pollution, and establishing environmental management systems. The role of GSM will encourage companies to carry out SP by reducing the impact on the environment. This condition will create the competitiveness of production companies so that SF is achieved. This creates the next research hypothesis that GSM strengthens the influence of SP on SF. Research by Bilgin (2009) has developed a legitimacy theory through a model that shows how a “green” company achieves competitive advantage. Companies with an environmentally friendly image attract greater investor attention because of the investor's sustainable focus.

Ziolo (2021) and Rachmawati (2021) explained that a company with a SF system will get more attention from investors than a company without SF. Investors are increasingly focused on companies that take significant responsibility for environmental concerns, as climate change has emerged as a critical issue worldwide. Based on this, the company and all its staff need to have sufficient strategies and knowledge on how to carry out daily operations. Song & Yu (2017) explained that corporate concern for the environment can support SF in order to achieve sustainable operations in the long term. Thus, GSM plays a role in strengthening the influence of GIC on SF. Based on this, the following research hypothesis that GSM strengthens the influence of GIC on SF.

Research from Ambec and Lanoie (2008) on the benefits of "green" concluded that companies have good performance by being green. Businesses must embrace eco-friendly innovation. A green strategy refers to the approach taken by companies to incorporate green innovation in order to gain a competitive edge, satisfy market demands, and fulfill the expectations of stakeholders, as noted by Song & Yu (2017). This is anticipated to have a favorable impact on the value of the company. GTI can drive companies towards SF for long-term financial management, because technology investment is a large and long-term investment based on this, it enters the next hypothesis that GSM strengthens the influence of GTI on SF.

METHOD

This study uses a quantitative approach with a sample drawn from production companies across various sectors, including industrial goods, food and beverages, cigarettes, household goods, automotive, clothing and fashion, leisure goods, and pharmaceuticals. This study uses primary data by distributing surveys to production companies. Before distributing the questionnaire, a pilot test was conducted to ensure the validity and clarity of the instrument. The pilot test questionnaire was processed based on 52 respondents who worked in production companies in the industrial goods, food & beverage, household goods, automotive, clothing & fashion, leisure goods and pharmaceutical sectors. Through this pilot test, the researcher received suggestions in the form of improvements related to demographics and question items that were more tailored to the research context, namely in demographics it was proposed to add a telephone number to the questionnaire demographics, the position of the person filling out the questionnaire at least at the staff level and the length of service was throughout the respondent's career, not the length of service at the company.

Based on the interview, there are also indicators that are proposed to be reduced, namely the indicator "The company needs to have foreign investors to provide support for the environment". This indicator is less relevant to conditions in Indonesia. Indicator "The company shows that it has become a member of the Indonesian stock exchange". This indicator is less

relevant because there is no certainty that companies listed on the stock exchange have sustainable financial conditions. Indicator "The company is known as an entity that supports environmental protection activities". This indicator overlaps with the indicator "The company is known as an entity that supports environmental maintenance activities". Indicator "The company needs to disclose the company's strategic plan". This indicator is less relevant because the strategic plan is a company secret that cannot be disclosed to the public. Indicator "The company needs to agree and unite to carry out SP". This indicator has the potential to cause misunderstandings. The words "agree" and "unite" are not followed by an explanation of which party the company needs to agree and unite with. The proposed addition from the interview results is the indicator "The company needs to provide education to change the mindset of 'costs' to 'investment' for sustainable activities" in the SF variable in the economic dimension. Indicator "Companies need to have an integrated information system to protect the environment" in the GTI variable. There is a proposal to change the sentence "Advance advertising activities" to "environmentally friendly marketing activities". The sentence "Reuse & recycle through eco-design" becomes "materials used can be recycled". Suggestions from the interview have been adjusted to the questionnaire items that will be used in this study. The results of the pilot test showed 5 indicators whose validity test results were not valid, all of which were in the SP variable, there were 2 indicators in the technology dimension, 2 indicators in the economic dimension and 1 indicator in the social-environmental dimension.

Data processing using SmartPLS 3 software because it will test the novelty element that has theoretical limitations (Wong, 2013). Statistical techniques with Moderated Regression Analysis to analyze data by predicting the value of the dependent variable, from the value of the independent variable with a moderating variable that strengthens or weakens the influence (Sekaran & Bougie, 2016).

RESULTS AND DISCUSSION

This study has successfully collected 364 respondents. Each respondent has answered all the questions asked in this study. Furthermore, the research sample needs to be reduced by 12 outlier data respondents found when conducting normality testing. Outlier data is data that does not match the data group in the data distribution of this study. This study uses 352 respondent data that matches the specified criteria.

Based on the results of the regression test, the P values of the independent variable of SP are 0.002 <0.05 with a coefficient value of 0.058. Thus, the first hypothesis is supported. SP has a positive effect on SF. The second independent variable, namely GIC, has a P value of 0.002 <0.05 with a coefficient value of 0.139. Thus, hypothesis 2 is accepted. GIC has a positive effect on SF. The third independent variable, namely green GTI, has P values of 0.000 <0.05 with a coefficient value of 0.585. Thus, hypothesis 3 is supported. GTI has a positive effect on SF. Moderation of GSM on the three independent variables has different impacts. Moderation of GSM on SP is proven to strengthen its influence on SF. This is indicated by the significance value of P moderation SP*GSM which is 0.000 or <0.05. Thus, hypothesis 4 is supported. The moderation of GSM on GIC has a significant P value of GIC*GSM moderation of 0.000 which means <0.05. This moderation variable has a coefficient value of -0.188. Although the P value is smaller than 0.05, the coefficient is negative so it is opposite to the direction of expectations. Thus, hypothesis 5 is rejected. The moderating effect of GSM is not proven to strengthen the influence of GIC on SF. The moderation of GSM on GTI has a significant value of P moderation GTI*GSM of 0.401 which means > 0.05. Thus, hypothesis 6 is rejected. The moderation of GSM on GTI is not proven to strengthen its influence on SF.

Table 1. Moderated Regression Result

Variables	Direction Hypothesis	Standard Coefficient	Standard Error	P Values	Result
SP-SF	+	0,058	0,018	0,002	Supported
GIC-SF	+	0,139	0,044	0,002	Supported
GTI-SF	+	0,585	0,048	0,000	Supported
SP*GSM-SF	+	0,202	0,029	0,000	Supported
GIC*GSM-SF	+	-0,188	0,046	0,000	Not Supported
GTI*GSM-SF	+	0,024	0,028	0,401	Not Supported

Source: Research data

The old SP research model by Malek & Desai (2022) uses four dimensions consisting of Organizational Strategic, Technological, Economic and Environmental and Social, while after the renewal in this study, there are six dimensions of SP consisting of technology, economy, environment and social, green business strategy, market advantage, and environmental reputation. After a sensitivity test was carried out on the old model (model 1) and the new model (model 2), the adjusted R2 value before the renewal was 78.9%, while after the renewal it became 90.2%. The regression results in model 1 show insignificant results for the variables of SP, GIC, and the moderating role of GSM. Model 2 shows changes in the influence of the variables of SP, GIC, and GSM moderation on the relationship between SP and SF which shows a positive influence. For the moderation of GSM on the relationship between GIC and SF in model 2, the p values changed to significant (0.000), but the coefficient was negative, not in line with the formulated hypothesis. Table 2 presents the findings from the sensitivity analysis.

Table 2. Result Sensitivity Test

Variables	Direction Hypothesis	Model 1 - Original		Model 2 - Novelty	
		Coefficient	P values	Coefficient	P values
SP-SF	+	0,081	0,180	0,058	0,002
GIC-SF	+	-0,076	0,173	0,139	0,002
GTI-SF	+	0,428	0,000	0,585	0,000
SP*GSM-SF	+	0,098	0,082	0,202	0,000
GIC*GSM-SF	+	-0,045	0,222	-0,188	0,000
GTI*GSM-SF	+	0,138	0,077	0,024	0,401
R square		0,795		0,904	
R square adjusted		0,789		0,902	

Source: Research data

Based on the test results, SP has a positive effect on SF. Thus, the results of this study support the hypothesis 1 that was formulated. The results of the study confirm the stakeholder theory where companies are not only responsible to shareholders, but also to all parties involved or affected by their operations, including employees, customers, suppliers, communities, and the environment. In relation to SP, this theory shows that a company's decision to carry out SP is a form of corporate responsibility to stakeholders. Valentinov (2023) defines sustainability as a long-term balance that benefits both the company and the environment and the wider community. When associated with the demographics of respondents, where the respondents came mostly from non-IDX companies as many as 235 respondents (66.8%), then the company's responsibility to internal parties (company employees) and external (suppliers and consumers). Non-IDX companies will tend to be oriented towards local stakeholders, such as the surrounding community, direct customers, or suppliers. Although pressure from investors may be lower, they are still influenced by market expectations and government regulations, especially if they want to increase their credibility in the eyes of external stakeholders. The focus of non-IDX companies lies in the satisfaction of local stakeholders which can increase

loyalty and business sustainability. The implementation of SP in non-IDX companies aims to respond to issues that occur locally and globally. The relationship found in the study shows that attention to stakeholders (both local and global) through SP can have a positive impact on the financial performance of companies, regardless of their status on the IDX.

Regarding hypothesis 2, the results of the study also provide positive results between the relationship between GIC and SF. The results of this study support Oktris et al. (2022) and Zahra et al. (2023). These results confirm the RBV theory. GIC helps companies create higher value while maintaining environmental sustainability. Through this, companies will design innovations not only for environmentally friendly purposes, but also for the efficiency of the company's operational costs. When operational costs are reduced, the company's profitability increases. This has a positive impact on SF. In addition, the GIC owned by the company's employees will make these employees have green awareness and technical skills in a sustainable environment. Thus, employees tend to be more innovative and productive, which ultimately improves the company's long-term financial performance. The majority of respondents from the pharmaceutical industry chose a high score for each indicator of GIC. This reflects that production companies in Indonesia are beginning to understand the importance of GIC to support sustainability, including the company's SF. Specifically, the pharmaceutical industry through GIC will underlie research and development (R&D) in creating new drugs or pharmaceutical products that can treat diseases that do not yet have effective medical solutions in an environmentally friendly manner. Patent rights to products provide exclusivity to companies to market products without direct competition, thereby increasing significant revenue in the long term.

The results of the study for hypothesis 3 show a positive relationship between GTI and SF, thus hypothesis 3 is accepted.The results of this study are in line with Zhu & Zou (2022), Xi & Zhao (2022), Zhang et al. (2023). The use of GTI creates a conducive corporate environment to improve the company's sustainable performance and promote the company's sustainable financial development. The more companies implement GTI, the higher the SF development follows existing GTI. The results of this study confirm the legitimacy theory (Dowling & Pfeffer, 1975) which encourages companies to carry out their production processes in accordance with applicable regulations, one of which is environmental regulations. To achieve an environmentally friendly production process, GTI is needed. GTI will bring good economic benefits to production companies by reducing resource consumption, increasing productivity, and reducing production costs. These economic benefits will improve the company's SF.

The moderating role of GSM is only seen in the relationship between SP and SF (hypothesis 4). The majority of respondents filled in the scores on the six GSM indicators with a high average value. This reflects that the company where the respondents work cares enough to be actively involved in environmental protection initiatives. By implementing GSM, the company's contribution is not only caring about environmental sustainability but also actively taking real actions to support environmentally friendly operations. Real practices are carried out by PT Semen Indonesia which implements Waste Heat Recovery Power Generation (WHRPG) technology. This technology utilizes waste heat from the production process to generate electrical energy. By using alternative fuels, such as biomass and industrial waste, it can reduce dependence on coal. In addition, PT Semen Indonesia also produces more environmentally friendly cement with lower clinker content, resulting in lower carbon emissions. With this strategy, PT Semen Indonesia can maintain high production levels while reducing carbon emissions and optimizing the use of renewable energy. These results are in line with research conducted by Babiak & Trendafilova (2011) and Olayeni (2021). GSM drives innovation in environmentally friendly technologies and production processes. This innovation allows companies to increase efficiency in resource use, reduce waste, and save energy, thus directly impacting production cost reduction. This condition also becomes a competitive

advantage for companies, improving reputation in the eyes of consumers and ease of access to funding. This green strategy not only helps companies achieve environmental sustainability but also improves financial stability and profitability in the long term.

The results of testing hypothesis 5 show that GSM moderation does not strengthen the influence of GIC on SF. Thus, hypothesis 5 is rejected.Respondents who are homogeneous in descriptive data with the same understanding pattern allow them to answer the questionnaire with the same understanding related to GSM. Respondents in answering the six indicators of GSM gave a high average score. This respondent pattern resulted in an understanding of GSM not at the organizational level, but rather tending to the individual context stage of the respondents in this study. GIC is important as a company asset to realize the company's sustainability program. Meanwhile, GSM is designed to facilitate companies in achieving sustainability in a directed and measurable manner. If moderated, GIC which is an intangible asset of the company will hinder the encouragement of GSM towards SF. Companies are potentially more focused on implementing environmental standards and compliance than maximizing the benefits of their employees' green knowledge and skills. Valero-Gil et al. (2023) show that excessive focus on green regulations can burden a company's operations so that GIC does not have an optimal impact on financial performance.

For hypothesis 6, GSM moderation does not strengthen the effect of GTI on SF. Thus, hypothesis 6 is rejected. Companies in developing GSM are usually not accompanied by sufficient budgets. As many as 66.8% of respondents in this study came from companies that are not listed on the IDX. In terms of company type, non-IDX companies are limited in financial capacity and are often less motivated by market or regulatory pressures to invest in green technology, unless there are direct incentives or government support. In addition, non-IDX companies generally do not face the same stringent demands regarding transparency or sustainability, so green innovation is often not a top priority. Rodrigues & Franco (2023) explain that the implementation of GTI often involves significant complexity and costs. This implementation can be hampered if GTI is not adjusted to the company's conditions. Although environmentally friendly innovation is very important for sustainability, its operationalization may face major obstacles that cannot be overcome by strategic management alone. Furthermore, Rodrigues & Franco underline the importance of life cycle assessment and co-innovation in achieving environmental sustainability, pointing out that strategic management must be deeply integrated with operational practices to be effective. In addition, research on the impact of environmentally friendly financial and environmental regulations (Guoet al., 2022) show that external regulatory and financial frameworks can significantly influence green innovation outcomes, often overshadowing the moderating role of internal GSM.

CONCLUSION

In conclusion, this study provides valuable insights into the influence of each variable (SP, GIC, and GTI) on SF. The three independent variables play an important role with positive effects, indicating that improvements in the three independent variables can improve SF.

The possibility of subjective respondent responses results in less-than-optimal data. This subjectivity can also arise due to filling out the questionnaire remotely (via e-mail) which means that respondents do not receive optimal guidance on filling out the questionnaire. In addition, the data cannot be processed immediately in its entirety. Some respondents do not meet the qualifications required in this study and there are outlier data.

Future research is expected to improve the data collection process by guiding the respondents to fill out the questionnaire, with a better percentage of guidance from this study. Further SP research can be conducted on production companies in countries other than Indonesia by considering sectors other than production, such as hotels, restaurants, hospitals, and multinational companies. Additional dimensions on SP can be done in further research, with a broader concept of environmental friendliness from the internal and external sides of the

Company. GTI can be studied further. Future research and practice should focus on bridging the gap between strategy and operations, increasing the integration of green technology, and developing a robust matrix to evaluate the financial impact of sustainability initiatives. By addressing these challenges, companies can better utilize the potential of green innovation technology to achieve environmental sustainability and financial performance, thereby creating a more comprehensive approach to corporate sustainability.

REFERENCE

Abdul-Rashid, S. H., Sakundarini, N., Raja Ghazilla, R. A., & Thurasamy, R. (2017). The impact of sustainable manufacturing practices on sustainability performance. International Journal of Operations & Production Management, 37(2), 182–204. Doi:10.1108/ijopm-04-2015-0223

Angela, P., & Handoyo, S. (2021). The determinants of environmental disclosure quality: Empirical evidence from Indonesia. Journal of Accounting Auditing and Business, 4(1). Doi: 10.24198/jaab.v4i1.31489

A. Ivan, and S. Raharja. (2021). Pengaruh Kepemilikan Keluarga, Kepemilikan Institusi dan Kepemilikan Asing terhadap Kinerja Keuangan Perusahaan. Diponegoro Journal of Accounting, 10(2).

Acemoglu, D., Aghion, P., Bursztyn, L., & Hemous, D. (2012). The Environment and Directed Technical Change. American Economic Review, 102(1), 131-166.

Ahmad, A., Ikram, A., Rehan, M. F., & Ahmad, A. (2022). Going green: Impact of green supply chain management practices on sustainability performance. Frontiers in Psychology, 13, 973676. https://doi.org/10.3389/fpsyg.2022.973676

Ahmadi-Gh, Z., & Bello-Pintado, A. (2022). Why is manufacturing not more sustainable? The effects of different sustainability practices on sustainability outcomes and competitive advantage. Journal of Cleaner Production, 337, 130392. https://doi.org/10.1016/J.JCLEPRO.2022.130392

AL-Khatib, A. W., & Shuhaiber, A. (2022). Green intellectual capital and green supply chain performance: does big data analytics capabilities matter?. Sustainability, 14(16), 10054. https://doi.org/10.3390/su141610054

Ali, H.; Chen, T., & Hao, Y. (2021). Sustainable Manufacturing Practices, Competitive Capabilities, and Sustainable Performance: Moderating Role of Environmental Regulations. Sustainability, 13(18), 1-18, 10051. https://doi.org/10.3390/su131810051

Ambec, S., & Lanoie, P. (2008). Does it pay to be green? A systematic overview. Academy of Management Perspectives, 22(4). https://doi.org/10.5465/amp.2008.35590353

Amini Chermahini, M., & Saremi, Y. (2018). Intellectual Capital and Corporate Performance in the Context of Sustainability. Sustainability Accounting, Management and Policy Journal, 9(4), 441-467.

Anex, R., P. (2000). Stimulating Innovation in Green Technology. American Behavioral Scientist. Vol 44 (2), pp 188-212.

Babiak, K., & Trendafilova, S. (2011). CSR and environmental responsibility: Motives and pressures to adopt green management practices. Corporate Social Responsibility and Environmental Management, 18(1). https://doi.org/10.1002/csr.229

Benevene, P., Buonomo, I., Kong, E., Pansini, M., & Farnese, M. L. (2021). Management of green intellectual capital: Evidence-based literature review and future directions. Sustainability, 13(15), 8349. https://doi.org/10.3390/su13158349

Bhanot, N., Rao, P. V., & Deshmukh, S. G. (2017). An integrated approach for the enablers and barriers of sustainable manufacturing. Journal of Cleaner Production, 142, 4412–4439. Doi:10.1016/j.jclepro.2016.11.123

Bilgin, M. (2009). The PEARL model: Gaining competitive advantage through sustainable development. Journal of Business Ethics, 85(SUPPL. 3). https://doi.org/10.1007/s10551-009-0210-1

Bottani, E.; Gentilotti, M.C.; Rinaldi, M. A. (2017). Fuzzy logic-based tool for the assessment of corporate sustainability: A case study in the food machinery industry. Sustainability, 9, 583.

Brown, T. A. (2015). Confirmatory factor analysis for applied research. Guilford Publications.

Burritt, R. L., Herzig, C., Schaltegger, S., & Viere, T. (2019). Diffusion of environmental management accounting for cleaner production: Evidence from some case studies. Journal of Cleaner Production, 224, 479-491.

Cantele, C., Zardini, A.(2018). Is Sustainability a Competitive Advantage for Small Business? An Empirical Analysis of Possible Mediators in The Sustainability-Financial Performance Relationship. Journal of Cleaner Production,182,166-176.

Carroll, A. B. (1999). Corporate social responsibility: Evolution of a definitional construct. Business and Society, 38(3). https://doi.org/10.1177/000765039903800303

Chang, C. and Chen, Y. (2012), "The determinants of green intellectual capital", Management Decision, Vol. 50 No. 1, pp. 74-94. https://doi.org/10.1108/00251741211194886

Chandra, M., & Augustine, Y. (2019). Pengaruh Green Intellectual Capital Index dan Pengungkapan Keberlanjutan Terhadap Kinerja Keuangan dan Non Keuangan Perusahaan dengan Transparansi sebagai Variabel Moderasi. Jurnal Magister Akuntansi Trisakti. https://doi.org/10.25105/jmat.v6i1.5066

Chen, YS., Lai, SB. & Wen, CT.(2006).The Influence of Green Innovation Performance on Corporate Advantage in Taiwan. Jurnal of Business Ethics 67, 331–339. https://doi.org/10.1007/s10551-006-9025-5

Chen, Y.S., 2008. The driver of green innovation and green image-green core competence. Jurnal of Business Ethics. 81 (3), 531–543.

Chung, Y. C., and Tsai, C. H. (2007). The Effect of Green Design Activities on New Product Strategies and Performance: An Empirical Study among High-tech Companies. International Journal of Management, 24(2).

Coad, A., & Guenther, C. (2014). Processes of firm growth and diversification: theory and evidence. Small Business Economics, 43, 857-871. https://doi.org/10.1007/s11187-014-9566-4.

Creswell, J. W., & Plano Clark, V. L. (2017). Designing and Conducting Mixed Methods Research. SAGE Publications.

D'Angelo, V., Cappa, F., & Peruffo, E. (2022). Green manufacturing for sustainable development: The positive effects of green activities, green investments, and non-green products on economic performance. Business Strategy and the Environment, 32(4), 1900–1913. https://doi. Org/10.1002/bse.3226

De Felice, A. P. (2015). Optimization of Manufacturing System through World Class Manufacturing. IFAC-PapersOnLine. 48(3), 741-746. https://doi.org/10.1016/j.ifacol.2015.06.171.

de Winter*, J. C. F., Dodou*, D., & Wieringa, P. A. (2009). Exploratory Factor Analysis With Small Sample Sizes. Multivariate Behavioral Research, 44(2), 147–181. https://doi.org/10.1080/00273170902794206

Dhyanasaridewi, I., & Augustine, Y. (2021). The Role Of Sustainability Innovations And E-Bussiness, In Achieving Firm Performance With A Sustainable Competitive Advantage As Mediation. Jurnal Ekonomi, 3(1).

Diabat, A., Kannan, D., & Mathiyazhagan, K. (2014). Analysis of enablers for implementation of sustainable supply chain management – A textile case. Journal of Cleaner Production, 83, 391–403. Doi:10.1016/j.jclepro.2014.06.081.

Digalwar,A.,K., Mundra,N., Tagalpallewar,A.,R., Sunnapwar,V.,K. (2017) "Road map for the implementation of green manufacturing practices in Indian manufacturing industries: An ISM approach", Benchmarking: An International Journal, Vol. 24 Issue: 5, pp.1386-1399, https:// doi.org/10.1108/BIJ-08-2015-0084.

Dubey, R., Gunasekaran, A., Papadopoulos, T., & Childe, S. J. (2015). Green supply chain management enablers: Mixed methods research. Sustainable Production and Consumption, 4, 72–88. Doi:10.1016/j.spc.2015.07.001.

Easley, D. and O'Hara, M. (2004), "Information and the cost of capital", Journal of Finance, Vol. 59, pp. 1553-84.

Eiadat, Y., Kelly, A., Roche, F., & Eyadat, H. (2008). Green and competitive? An empirical test of the mediating role of environmental innovation strategy. Journal of World Business, 43(2), 131–145.

Elkins, P., Zenghelis, D. (2021). The cost and benefits of environmental sustainability. Institute for Global Environmental Strategies. Vol 16, pp949-965.

Fabrigar, L. R., Wegener, D. T., MacCallum, R. C., & Strahan, E. J. (1999). Evaluating the use of exploratory factor analysis in psychological research. Psychological Methods, 4(3), 272–299.

Firmansyah, A. (2017). "Pengaruh Green Intellectual Capital dan Manajemen Lingkungan Organisasi Terhadap Green Organization dan Dampaknya Terhadap Green Competitive Advantage, Jurnal Substansi, Vol 1 (1).

Garetti, M., and Taisch, M. (2012). Sustainable manufacturing: trends and research challenges, Production Planning & Control, 23, 83-104.

Ghozali, Imam. (2017). Ekonometrika Teori, Konsep dan Aplikasi dengan IBM Small Stata 14.2. Semarang: Badan Penerbit Universitas Diponegoro.

Giwangkara, J. (2021). The Urgency of Renewable Energy Transition in Indonesia. Problema Transisi Enegi di Indonesia, 1-24.

Gryglewicz, S. A theory of corporate financial decisions with liquidity and solvency concerns. J. Financ. Econ. 2011, 99, 365–384.

Gujarati, D. N., & Porter, D. C. (2017). Basic econometrics 5th edition.

Guthrie, J., Petty, R., Yongvanich, K., & Ricceri, F. (2004). Using content analysis as a research method to inquire into intellectual capital reporting.

Guo, C. Q., Wang, X., Cao, D. D., & Hou, Y. G. (2022). The impact of green finance on carbon emission—analysis based on mediation effect and spatial effect. Frontiers in Environmental Science, 10, 844988. https://doi.org/10.3389/fenvs.2022.844988

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Haleem, A., Javaid, M., Singh, R. P., Suman, R., & Qadri,M. A. (2023). A pervasive study on Green Manufacturing towards attaining sustainability. Green Technologies and Sustainability, 1(2), 100018. https://doi.org/10.1016/j.grets.2023.100018.

Hayes, A. F. (2013). Methodology in the social sciences.Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford Press.

Hironaka, C. (2016). Sustainability and Business: What is Green Company Image? IOP Conference Series Earth and Environmental Science, 32(1). 10.1088/1755-1315/32/1/012049

Henock, M.S. Financial sustainability and outreach performance of saving and credit cooperatives: The case of Eastern Ethiopia. Asia Pac. Manag. Rev. 2019, 24, 1–9.

Hermundsdottir, A., Aspelund, A.(2022). Competitive Sustainable Manufacturing – Sustainable Strategies, Environmental and Social Innovations, and Their Effects on Firm Performance. Journal of Cleaner Production, 370. https://doi.org/10.1016/j.jclepro.2022.133474.

Hsiao, C.-Y., Huang, S.-M., Kang, Y.-Y., & Li, Y.-X. (2022). The Impact of ESG Performance on Business Performance before and after the COVID-19－Taking the Chinese Listed Companies as a Sample. Asian Journal of Economics, Business and Accounting, 22(5), 56–68. https://doi.org/10.9734/ajeba/2022/v22i530563

Huang, J. W., & Li, Y. H. (2017). Green innovation and performance: The view of organizational capability and social reciprocity. Journal of Business Ethics, 145, 309-324. https://doi.org/10.1007/s10551-015-2903-y

Huang, S. Y., Ye, H. Y., Zhang, H. Y., Zeng, Y., & Chen, S. H. (2021). The Impact of Technological Innovation on the Financial Sustainability of Enterprises—Taking the New Energy Industry as an Example. China Science and Technology Forum, 2, 51-57.

Hwang, J.; Kim, H.; Jung,D.(2021). The Effect of ESG Activities on Financial Performance during the COVID-19 Pandemic—Evidence from Korea. Sustainability (13). https://doi.org/10.3390/su132011362

Inman, R.A., Green, K.W., 2018. Lean and green combine to impact environmental and operational performance. Int. J. Prod. Res. 56 (14), 4802–4818. https://doi.org/ 10.1080/00207543.2018.1447705.

Jenkin, T. A., Webster, J., & McShane, L. (2011). An agenda for "Green" information technology and systems research. Information and Organization, 21(1), 17–40. Doi:10.1016/j.infoandorg.2010.09.003

Jiakui, C., Abbas, J., Najam, H., Liu, J., & Abbas, J. (2023). Green technological innovation, green finance, and financial development and their role in green total factor productivity: Empirical

insights from China. Journal of Cleaner Production,382,135131.https://doi.org/https://doi.org/10.1016/j.jclepro.2022.135131
Johnston, M. P. (2017). Secondary Data Analysis: A Method of which the Time Has Come. Qualitative and Quantitative Methods in Libraries (QQML), 3, 619-626.
Keefe, Joseph F. (2011). "From socially responsible investing to sustainable investing". Green Money Journal, Spring.
Khan, H. H. A., Ahmad, N., Yusof, N. M., & Chowdhury, M. A. M. (2024). Green finance and environmental sustainability: a systematic review and future research avenues. Environmental Science and Pollution Research, 31(6), 9784-9794. Doi: https://doi.org/10.1007/s11356-023-31809-6
Khotari, S.,P., Werner, J., B. (2006). Econometrics of Event Studies. Handbook of Corporate Finance: Empirical Corporate Finance. Vol A, Ch 1.
Kotsantonis, S., Serafeim, G., & Serafeim, I. (2016). Common risk factors in the returns on stocks and bonds. Harvard Business School Working Paper, 16(45).
Kumar, S., Sharma, D., Rao, S., Lim, W. M., & Mangla, S. K. (2022). Past, present, and future of sustainable finance: insights from big data analytics through machine learning of scholarly research. Annals of Operations Research, 1-44. Doi: https://doi.org/10.1007/s10479-021-04410-8
Laari, S., Toyli, ¨ J., Ojala, L., 2017. Supply chain perspective on competitive strategies and green supply chain management strategies. J. Clean. Prod. 141, 1303–1315. Doi: https://doi.org/10.1016/j.jclepro.2016.09.114.
Lai, K.H., Wong, C.W., 2012. Green logistics management and performance: some empirical evidence from Chinese manufacturing exporters. Omega 40 (3), 267–282.
Lai, X. (2019). Green Technology Innovations Development in China: Trend and Application. In (Ed.), Innovation in Global Green Technologies 2020. IntechOpen. Doi: https://doi.org/10.5772/intechopen.89599.
Liu, C., & Wu, S. S. (2023). Green finance, sustainability disclosure and economic implications. Fulbright Review of Economics and Policy, 3(1), 1-24.
Loderer, C., & Waelchli, U. (2010). Protecting minority shareholders: Listed versus unlisted firms. Financial Management, 39(1), 33–57. Doi: https://doi.org/10.1111/j.1755- 053X.2009.01065.x
Lodhia, S. K., & Sharma, U. (2019). Sustainability accounting and reporting: recent perspectives and an agenda for further research. Pacific Accounting Review, 31 (3), 309-312. https://doi.org/10.1108/PAR-02-2019-121
Luchs, M.G., Naylor, R.W., Irwin, J.R., Raghunathan, R., 2010. The sustainability liability: Potential negative effects of ethicality on product preference. J Mark. 74 (5), 18–31.
Lusmeida, H., Augustine, Y. (2022). The Effect of Enterprise Risks Management, Towards Sustainable Finance Moderated By Intellectual Capital. Technium Social Sciences Journal. 29, 481-496.
Macchiavello, E., & Siri, M. (2022). Sustainable finance and fintech: Can technology contribute to achieving environmental goals? A preliminary assessment of 'green fintech'and 'sustainable digital finance'. European Company and Financial Law Review, 19(1), 128-174.
Malek, J. & Desai, J. T. (2019). Interpretive structural based analysis of sustainable manufacturing enablers, J. Clean. Prod. 238, https://doi.org/10.1016/j. jclepro.2019.117996.
Malek,J., & Desai,T.N.(20 19). Prioritization of sustainable manufacturing barriers using Best Worst Method, J. Clean. Prod. 226, 589–600, https://doi.org/10.1016/j. jclepro.2019.04.056.
Malek,J., & Desai,T.N.(2022). Investigating the role of sustainable manufacturing adoption in improving the organizational performance. Technology in Society. https://doi.org/10.1016/J.TECHSOC.2022.101940
Malviya, R. Kant. (2017). Modeling the enablers of green supply chain management: an integrated ISM – fuzzy MICMAC approach, Benchmark Int. J. 536–568, https://doi.org/10.1108/BIJ-08-2015-0082.
Mansoor, A., Jahan, S., & Riaz, M. (2021). Does green intellectual capital spur corporate environmental performance through green workforce?. Journal of Intellectual Capital, 22(5), 823-839. https://doi.org/10.1108/JIC-06-2020-0181
Marco-Lajara, B., Zaragoza-Sáez, P.C., Martínez-Falcó, J. and Sánchez-García, E. (2023), "Does green intellectual capital affect green innovation performance? Evidence from the Spanish wine

industry", British Food Journal, Vol. 125 No. 4, pp. 1469-1487. https://doi.org/10.1108/BFJ-03-2022-0298
Marquis, C., Qian, C., 2013. Corporate social responsibility reporting in China: symbol or substance? Organ. Sci. 25 (1), 127–148.
Mathiyazhagan, K., Govindan, K., & Noorul Haq, A. (2013). Pressure analysis for green supply chain management implementation in Indian industries using analytic hierarchy process. International Journal of Production Research, 52(1), 188–202. Doi:10.1080/00207543.2013.831190
Migliorelli, M. (2021). What do we mean by sustainable finance? Assessing existing frameworks and policy risks. Sustainability, 13(2), 975. Doi: https://doi.org/10.3390/su13020975
Mistry, V., Sharma, U., & Low, M. (2014). Management accountants' perception of their role in accounting for sustainable development: An exploratory study. Pacific Accounting Review, 26(1/2), 112-133.
Nachrowi, N. D., & Usman, H. (2006). Pendekatan dan praktis ekonometrika untuk analisis ekonomi dan keuangan. Jakarta: Lembaga Penerbit Fakultas Ekonomi Universitas Indonesia.
Nagariya, R., Kumar, D., Kumar, I., & Patel, B. S. (2021). Service only supply chain: Sustainable practices for achieving higher performance and sustainable development goals. In Handbook of research on novel practices and current successes in achieving the sustainable development goals, 242–258). IGI Global. https://doi.org/10.4018/978-1-79988426-2.ch012
Nilayanti, M.,Suaryana, IGA. (2019). Pengaruh Kepemilikan Manajerial dan Kepemilikan Institusional Terhadap Kinerja Keuangan Perusahaan Dengan Kebijakan Deviden Sebagai Pemoderasi. E-Jurnal Akuntansi Universitas Udayana, 26(2), 906-936.
Nguyen, N.,P, Adomako, S.(2021). Environmental proactivity, competitive strategy, and market performance: The mediating role of environmental reputation. Bus Strat Env, 30. https://doi.org/10.1002/bse.2729
Nguyen, T. T. T., Nguyen, T. T. T., Tran, T. T., Luong, T. A., & Luu, K. C. (2022). The effect of corporate social responsibility on green supply chain management and firm performance. Uncertain Supply Chain Management, 10(3). https://doi.org/10.5267/j.uscm.2022.3.013
Oktris, L., Augustine, Y., Arsjah, R. J. (2022). Pengungkapan Emisi Karbon. Pustaka Pranala. Yogyakarta.
Olayeni, A., Ogbo, A., Okwo, H., Chukwu, B., Ifediora, C., & Ezenwakwelu, C. (2021). Green Strategy Effect on Financial and Environmental Performance: A Mediation Analysis of Product Quality. Sustainability, 13(4), 2115. MDPI AG. Retrieved from http://dx.doi.org/10.3390/su13042115.
Orlitzky, Marc, Frank L. Schmidt, and Sara L. Rynes. (2003) "Corporate Social and Financial Performance: A Meta-Analysis." Organization Studies 24(3).
Paul, M., et al. (2024). Sustainable Manufacturing: A Review and Framework Derivation. Sustainability, 16(1), 119. DOI: 10.3390/su16010119
Pastor, L., Veronesi, P. (2009). Technological Revolutions and Stock Prices. American Economic Association. Vol 99(4), pp1451-1483.
Peng, Y.S., Lin, S.S. (2008). Local responsiveness pressure, subsidiary resources, green management adoption and subsidiary's performance: evidence from Taiwanese manufactures. J. Bus. Ethics 79 (1–2), 199–212.
Prasad, R.P. Pradhan, K. Gaurav, P.P. Chatterjee, I. Kaur, S. Dash, S. Nayak. (2018). Analysing the critical success factors for implementation of sustainable supply chain management: an Indian case study. 3–25, https://doi.org/10.1007/s40622-017-0171-7.
Qiu, J., Wang, J., Zhou, Y. (2018). Technology and Return Predictability. SSRN.
Rachmawati, S. (2021). Green Strategy Moderate The Effect of Carbon Emission Disclosure and Environmental Performance on Firm Value. International Journal of Contemporary Accounting. Vol 3(2). Pp133-152. http://dx.doi.org/10.25105/ijca.v3i2.12439.
Rao, P. and Holt, D. (2005). Do green supply chains lead to competitiveness and economic performance?, International Journal of Operation and Production Management, Vol 5, Issue 9, pp. 898 – 916.
Raar, Jean. (2002). "Environmental initiatives: towards triple-bottom line reporting". Corporate Communication: an International Journal. Volume 7 Number 3 pp. 169-183.
Rodrigues, M., & Franco, M. (2023). Green Innovation in Small and Medium-Sized Enterprises (SMEs): A Qualitative Approach. Sustainability, 15(5), 4510. https://doi.org/10.3390/su15054510

S. Dhull, M. Narwal. (2018). Prioritizing the drivers of green supply chain management in Indian manufacturing industries using fuzzy TOPSIS method : government , industry , environment , and public perspectives, Process Integration and Optimization for Sustainability, 2, 47–60.

Saha, M., Darnton, G., 2005. Green companies or green companies: are companies really green, or are they pretending to be? Bus. Soc. Rev. 110 (2), 117–157.

Salwa et. al. (2017). The impact of sustainable manufacturing practices on sustainability performance: empirical evidence from Malaysia. International Journal of Operations & Production Management, Vol. 37 (2). http://dx.doi.org/10.1108/IJOPM-04-2015-0223.

Sardaro, R.; Bozzo, F.; Petrillo, F.; Fucilli, V. Measuring the financial sustainability of vine landraces for better conservation programmes of Mediterranean agro-biodiversity. Land Use Policy 2017, 68, 160–167.

Schaltegger, S., & Burritt, R. (2017). Contemporary environmental accounting: issues, concepts and practice. Routledge.

Scharmer VM, Vernim S, Horsthofer-Rauch J, Jordan P, Maier M, Paul M, Schneider D, Woerle M, Schulz J, Zaeh MF. Sustainable Manufacturing: A Review and Framework Derivation. Sustainability. 2024; 16(1):119. https://doi.org/10.3390/su16010119

Schwab, L.; Gold, S.; Reiner, G. (2019). Exploring financial sustainability of SMEs during periods of production growth: A simulation study. Int. J. Prod. Econ, 212, 8–18.

Sekaran, U. and Bougie, R. (2016) Research Methods for Business A Skill-Building Approach. 7th Edition, Wiley & Sons, West Sussex.

Setyowati, A. B. (2023). Governing sustainable finance: insights from Indonesia. Climate Policy, 23(1), 108-121. Doi: https://doi.org/10.1080/14693062.2020.1858741

Shamsi, M. K.; Siddiqui, Z.,S. (2017). Green Product and Customer Behaviour: An Analytical Study. Pertanika Journal of Social Science and Humanities, 25(4), 1545-1554.

Sharma S, Durand RM, Gur-Arie O (1981) Identification and analysis of moderator variables. J Mark Res 18:291–300

Singh, S. Rastogi (2003). Technological Dynamism in Asia. Research Policy, 32(6), 1031-1054.

Singh, S. Rastogi, M. Aggarwal. (2016). Analyzing the factors for implementation of green supply chain management. 246–264, https://doi. Org/10.1108/CR-06-2015-0045.

Singh, S. K., Chen, J., Del Giudice, M., & El-Kassar, A. N. (2019). Environmental ethics, environmental performance, and competitive advantage: Role of environmental training. Technological Forecasting and Social Change, 146, 203-211. https://doi.org/10.1016/j.techfore.2019.05.032

Soewarno, N., Tjahjadi, B., & Fithrianti, F. (2019). Green innovation strategy and green innovation: The roles of green organizational identity and environmental organizational legitimacy. Management decision, 57(11), 3061-3078.

Song, W &Yu, H. (2017). Green Innovation Strategy and Green Inovation: The Roles of Green Creativity and Green Organizational Identity. https://doi.org/10.1002/csr.1445

Sudibyo. (2019). The Adoption of Environmental Consciousness and Environmental Leadership as driver of Competitive Advantage. OIDA International Journal of Sustainable Development, 12(9).

Sugiharti, L., Rudi Purwono, D., Primanthi, M. R., & Padilla, M. A. E. (2019). Indonesia Industrial Productivity Growth: Evidence of Re-Industrialization od De-Industrialization?. Periodica Polytechnica Social and Management Sciences, 27(2), 108-118.

Sun, William, Celine Louche, and Roland Pérez. (2015) "Finance and Sustainability: Exploring the Reality We Are Making in Finance and Sustainability: Towards a New Paradigm." A Post-Crisis Agenda. Emerald Group Publishing Limited: Bingley, UK, pp. 3–15.

Sustainable Finance. High-level definitions. (2020) International Capital Market Association (ICMA), Zurich.

Takeaways, K. (2019). The ESG Advantage: Exploring Links To Corporate Financial Performance.

Toke, L.,K., Kalpande, S.,D. (2017). A Framework of Enabler's Relationship for Implementation of Green Manufacturing in Indian Contect. International Journal of Sustainable Development and World Ecology. http://dx.doi.org/10.1080/13504509.2017.1393635

The World Commission on Environment and Development (1987) "Our Common Future." WCED, Oslo.

Touchen Li, et. al. 2018. Research on the effect of Green Technology Innovation in China's Provincial High-End Manufacturing Industry Based on the RAGA-PP-SFA Model. Mathematical Problems in Engineering. https://doi.org/10.1155/2018/9463707.

United Nations (1972). Declaration of the United Nations Conference on the Human Environment. United Nations.

Valero-Gil, J., Surroca, J. A., Tribo, J. A., Gutierrez, L., & Montiel, I. (2023). Innovation vs. standardization: The conjoint effects of eco-innovation and environmental management systems on environmental performance. Research Policy, 52(4), 104737.

Weber, Olaf, and Sven Remer. (2011).Social Banks and the Future of Sustainable Finance. Routledge: New York, USA, pp. 15–47.

Wedari, L. K., & Alfian, H. (2024). Does Green Innovation Impact on Profitability of Indonesian Consumer Non-Cyclicals Companies?. International Journal of Sustainable Development & Planning, 19(7).

Wicki S, Hansen EG. (2019). Green technology innovation: Anatomy of exploration processes from a learning perspective. Bus Strat Env. 28. 970–988. https://doi.org/10.1002/bse.2295

Wu, W.P., 2008. Dimensions of social capital and firm competitiveness improvement: the mediating role of information sharing. J. Manag. Stud. 45 (1), 122–146.

Wong, Ken. (2013). Partial least squares structural equation (PLS-SEM) techniques using SmartPLS. Marketing Bulletin. 24. 1-32.

Xi, L. S., & Zhao, H. (2022). Executive Dual Environmental Perceptions, Green Innovation and Corporate Sustainability Performance. Economic Management, 44, 139-158.

Xu.,F., Ji.,Q.,Yang.,M. (2021). The Pitfall of Selective Environmental Information Disclosure on Stock Price Crash Risk: Evidence from Polluting Listed Companies in China. Frontiers in Environmental Science.

Yang, J., et al., Strategic flexibility, green management, and firm competitiveness in an emerging economy, Technol. Forecast. Soc. Change (2015), http://dx.doi.org/10.1016/j.techfore.2015.09.01

Yang, Z. (2023). The impact of green finance on high-quality economic development in China: vertical fiscal imbalance as the moderating effect. Sustainability, 15(12), 9350. https://doi.org/10.3390/su15129350

Yuliana, Y., & Wedari, L. K. (2023). Carbon Performance, Green Strategy, Financial Performance Effect on Carbon Emissions Disclosure: Evidence from High Polluting Industry in Indonesia. International Journal of Sustainable Development & Planning, 18(5).

Zabolotnyy, S.; Wasilewski, M.(2019). The Concept of Financial Sustainability Measurement: A Case of Food Companies from Northern Europe. Sustainability,11(18),https://doi.org/10.3390/su11185139

Zahra, A., Ayub,H.& Abdullah.(2022). Impact of Green Intellectual Capital on Sustainable Green Banking: Moderating Role of Competitive Pressure. Journal of Accounting and Finance in Emerging Economies, 8 (2), 251-262.

Zairis, G., Liargovas, P., & Apostolopoulos, N. (2024). Sustainable finance and ESG importance: A systematic literature review and research agenda. Sustainability, 16(7), 2878. Doi: https://doi.org/10.3390/su16072878

Zhang, N., Sun, J., Tang, Y., Zhang, J., Boamah, V., Tang, D., & Zhang, X. (2023). How Do Green Finance and Green Technology Innovation Impact the Yangtze River Economic Belt's Industrial Structure Upgrading in China? A Moderated Mediation Effect Model Based on Provincial Panel Data. Sustainability, 15(3), 2289. MDPI AG. Retrieved from http://dx.doi.org/10.3390/su15032289

Zihan, W., & Makhbul, Z. K. M. (2024). Green Human Resource Management as a Catalyst for Sustainable Performance: Unveiling the Role of Green Innovations. Sustainability, 16(4), 1453. https://doi.org/10.3390/su16041453

Zioło, M. et al (2019) "How to Design More Sustainable Financial Systems: The Roles of Environmental, Social, and Governance Factors in the Decision-Making Process." Sustainability 11(20)

Ziolo, M. et al. (2021). Sustainable Finance Systems Toward Sustainable Finance. Institutional and Managerial Approach. Procedia Computer Science. DOI 10.1016/j.procs.2021.09.200