Political connection as a moderator in the relationship between green innovation and firm value: The mediating role of financial performance in Indonesia

Siti Rochmah, Putri Aulia Emha, Nadila Deryza Syofrin

This PSSJ: Original Article is brought to you for free and open access by Privietlab. It has been accepted for inclusion in Priviet Social Sciences Journal by an authorized editor of Privietlab Journals

Full Terms & Conditions of access and use are available at: https://journal.privietlab.org/index.php/PSSJ/about

Political connection as a moderator in the relationship between green innovation and firm value: The mediating role of financial performance in Indonesia

Siti Rochmah[*1], Putri Aulia Emha[1], Nadila Deryza Syofrin[2]

[1]Politeknik Negeri Banjarmasin, Jl. Brigjend H. Hasan Basri, Banjarmasin, Kalimantan Selatan, Indonesia
[2]Politeknik Hasnur, Jl. Brigjend H. Hasan Basri, Banjarmasin, Kalimantan Selatan, Indonesia
*e-mail: sitirochmah@poliban.ac.id

ABSTRACT

This study aims to analyze the influence of green innovation on the value of companies with financial performance as mediators and political connections as moderation variables in the energy sector listed on the Indonesia Stock Exchange for the period 2020–2024. Using *the purposive sampling* method of 50 observations, the data was analyzed through *Partial Least Square* (PLS-SEM) with the help of SmartPLS 4.0. The results of the study revealed that green innovation had a significant positive effect on financial performance ($\beta=0.252$; $p=0.031$), but has no direct effect on the company's value ($\beta=0.051$; $p=0.681$). Financial performance was also found to fail to mediate the relationship ($\beta=0.017$; $p=0.672$), indicating that the capital market has not appreciated internal efficiency based on the environment independently. The most crucial finding is that political connections act as the *main differentiating factor*. Green innovation significantly improves financial performance ($\beta=0.304$; $p=0.050$) and company value ($\beta=0.244$; $p=0.042$) only in entities with political networks. The implications of this study confirm that in emerging markets, the technical capabilities of innovation must synergize with political institutional assets to achieve optimal market performance; therefore, the government needs to design a more transparent and inclusive energy transition incentive scheme for all industry players.

Keywords: green innovation; financial performance; firm value; political connection; sustainable strategy

priviet lab.
RESEARCH & PUBLISHING

1. INTRODUCTION

Climate change has become an urgent fundamental challenge for humanity and the global economy. The consequences of the increase in greenhouse gas emissions that reached 715 MtCO2e in Indonesia's energy sector in 2022, further threaten the sustainability of the planet and prompt the need for a comprehensive response (IESR, 2024). This condition has triggered a significant change in the investment paradigm worldwide. A report from the International Energy Agency (IEA) by 2024 shows that global investment in clean energy has increased by 60% since 2015. Investment flows for clean energy projects are now close to USD 2 trillion per year, an amount that is almost double the combined funds allocated for the supply of new oil, gas, and coal. The change in the investment ratio from 1:1 before the pandemic to almost 2:1 is a clear indication that global capital markets are starting to internalize climate risks and shift their focus to the long-term opportunities offered by the green economy.

Since 2020, the energy sector has been required to transition to a green economy with investment support, including the allocation of US$1 billion from the Indonesian Investment Authority (INA) for clean energy infrastructure. The global energy transition to a low-carbon economy has placed the energy sector under unprecedented regulatory pressure. Based on the Paris Agreement, Indonesia has committed to achieving net zero emissions (NZE) by 2060, legally strengthened by Presidential Regulation No. 112 of 2022 concerning the Acceleration of Renewable Energy Development.

The real-world phenomenon occurring in Indonesia today is the double pressure on energy companies. On the one hand, it must allocate large capital for environmentally friendly technologies (green innovation); on the other hand, it must maintain cash flow stability amid fluctuations in global commodity prices. Through improved financial performance, green innovation can strengthen investor confidence and trigger an increase in stock prices. Research has shown that green innovation has a significant positive effect on company value (Agustia et al., 2019; Damas et al., 2021; Yuniarti et al., 2022). However, other studies have revealed short-term negative impacts on a company's value due to high investment costs and delayed economic benefits (Xie et al., 2022). The economic benefits of green innovations are often debated because their success often entails large costs that can increase spending burdens and lower profits, which is an important consideration for investors (Rochmah & Taharuddin, 2024).

In addition to internal factors, such as financial performance, external factors in the form of political connections can also affect the relationship between green innovation and company value. In developing countries, companies often use political connections to gain access to resources, contracts, and policy support (Yang & Xu, 2022). This political connection guarantees security and stability for companies, especially in the face of regulatory changes related to environmental issues (Saputra & Soewarno, 2024). While it can reduce regulatory risks and create stability that has the potential to support sustainable investments, political connections also risk stifling green innovation through rent-seeking behaviors that divert resources away from R&D and rely on political protections (Chen et al., 2011). This dependency makes companies tend to be conservative and avoid risk-taking on innovation projects with high uncertainty, which can even be used to avoid strict public scrutiny (Wu et al., 2012).

The importance of this study lies in the fact that although green innovation is considered a moral imperative, its impact on the economic value of companies in emerging markets is often questioned (Xie et al., 2022; Yao et al., 2019). The magnitude of the environmental impact of this sector's activities fosters public awareness of social and environmental responsibility. Green innovation is a strategic solution that involves the development of products, processes, or systems that reduce negative environmental impacts while strengthening a company's competitiveness and reputation (Ramadhany et al., 2021; Yuniarti et al., 2022). Although the literature on green innovation is growing rapidly, there are still theoretical and empirical gaps. First, some studies have contradictory findings that argue that green innovation increases company value through resource efficiency (Xie et al., 2022), while other studies argue that the cost burden of innovation distorts the value of the company in the short term due to high uncertainty (Yang & Xu, 2022). Second, there is a contextual gap, namely the mechanism of political institutions influencing environmental strategies; companies in Indonesia have not been explored in depth (Saputra & Soewarno, 2024). In markets with *state-dominated economy* characteristics such as Indonesia, political connections are

often a critical instrument in mitigating regulatory risks and gaining access to green energy subsidies (Faccio, 2006; Yang & Xu, 2022), yet the role of moderation is often overlooked in conventional economic models (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013).

This study not only examines direct relationships but also explicitly dissects internal mechanisms through financial performance as mediators. This study reconciles the debate over whether green innovation is a cost burden or a strategic investment. With this mediation pathway, this study offers a stronger explanation of how the operational efficiencies of green technology translate into positive signals for capital-market investors. The main innovation of this study is the placement of political connections not only as a determining variable but also as a moderating factor. The effectiveness of green innovation in increasing a company's value depends heavily on the level of political legitimacy it has. This provides a new perspective that in emerging markets, technical capabilities (innovation) must synergize with institutional assets (political connections) to achieve optimal performance.

Based on this background, this study aims to analyze how green innovation affects corporate value through the mediation of financial performance, with political connections as a moderating variable in Indonesia's energy sector. This research is urgent because the results will provide a concrete action basis for policymakers in designing more transparent energy transition incentives and for managers in ethically aligning environmental agendas with corporate political strategies.

2. LITERATURE REVIEW

2.1 Agency Theory

Agency theory, which is the foundation of corporate finance, explains the existence of a contractual relationship between the principal (shareholders) and agent (management). This theory assumes that agents may be motivated to act in their personal interests, which is often different from the principal's goal of maximizing the company's value (Jensen & Meckeling, 1976). This condition incurs agency costs, including the cost of monitoring managerial behavior, the cost of binding the manager, and residual costs. Panda and Leepsa (2017) assert that the main problems in this theory remain information asymmetry and conflicts of interest. They argue that without a strict oversight mechanism, managers may prioritize short-term gains or personal compensation over strategic investments that can sustainably increase the company's value. The implementation of transparent corporate governance is a key solution for mitigating managers' opportunistic behavior. Bendickson et al. (2016) show that agency theory has evolved to include how board structure and information transparency can reduce agency costs.

2.2 Legitimacy Theory

Dowling and Pfeffer (1975) stated that an organization will face sanctions and potential failure if its actions do not respect moral and social values. Therefore, organizations must justify their existence through legitimate economic and social actions and not endanger the existence of the community in its place of operation, as well as its natural environment (Burlea & Popa, 2013). Legitimacy can be assessed by examining the values and norms that apply to society as seen in the communication of a culture diverting resources from R&D and reliance on political protections diverting resources from R&D and reliance on political protections (Dowling & Pfeffer, 1975). According to Burlea and Popa (2013), the quality of legitimacy depends on the role of organizational management in ensuring that the relationship between the internal and external environments is well established to maintain the company's image with pragmatic legitimacy.

2.3 Green Innovation

According to Agustia et al. (2019), green innovation refers to production processes, practices, systems, or techniques that are tailored to reduce the negative impact on the environment generated by companies. This concept has a goal that is in line with the innovation system in general, not only aiming to obtain economic benefits, but also has the additional goal of reducing the negative impact on the environment that the company may produce. In essence, green innovation is an important intangible asset

that affects firm value, helping enterprises transform environmental sustainability goals into profitable investment opportunities (Xie et al., 2022). The assessment of green innovation in this study is the same as that in Yuniarti et al. (2022), measured by the score obtained by the company through the PROPER assessment of environmental management performance. PROPER is used as an indicator in this study because it includes indicators from the study (Agustia et al., 2019; Chen et al., 2006). The color rating in the PROPER assessment is also decided by the body responsible for environmental management, namely the Ministry of Environment and Forestry.

2.4 Firm Value

The stock market price formed through the transaction mechanism between the buyer and seller reflects the market value of the company, as the stock price is seen as a representation of the real value of the company's assets. Thus, the value of the company will be reflected in its share price (Irnawati, 2021). This is in line with Hutabarat (2021) who stated that company value is a market value ratio that provides an overview of actual market conditions. This ratio not only provides an understanding to the company's management regarding the policies to be implemented, but also helps predict its impact in the future. Efforts to increase the company's value are seen as an important achievement because they are directly related to the welfare of investors. As stated by Irnawati (2021), maximizing company value means at the same time maximizing shareholder prosperity, which is the company's main goal. Thus, the company's value can be understood as a reflection of the trust of shareholders and an indicator of the company's performance achievement (Apriliani, 2023).

2.5 Financial Performance

According to Hutabarat (2021), financial performance refers to an analysis process that aims to evaluate the extent to which a company has carried out its financial activities in accordance with applicable principles and regulations. Optimal financial performance reflects the company's compliance with these rules appropriately and effectively. Furthermore, financial performance describes an organization's ability to manage its financial resources, as well as an indicator of financial health, operational effectiveness, and implementation of company policies.

In the context of strategic management, financial performance serves as a reflection of how well a firm uses its internal resources to generate economic value (Wang et al., 2022). Ganda & Milondzo (2018) argues that superior financial performance provides the necessary "slack resources" that allow a company to invest in risky but sustainable long-term projects, such as renewable energy technologies. Thus, strong financial results send a positive signal to the market regarding the company's future viability and management quality (Agustia et al., 2019). Indicators commonly used to measure financial performance include return on equity (ROE), return on assets (ROA), dividends per share, and earnings per share (Ngatno, 2021).

2.6 Political Connection

Political connection refers to the special relationship between enterprises and the government formed when the actual holders of enterprises are shareholders with political rights and a government background, or when corporate executives have political identities (Wang et.al., 2022). Political connections are considered a strategic asset that increases competitiveness and access to external resources (Wu et al., 2012). According to Faccio (2006) political connection is defined as a condition when controlling shareholders, members of the board of commissioners, or the board of directors have a direct or indirect relationship with a political actor, through membership in parliament, government positions, or close family ties with a politician. This relationship can take the form of: (a) a personal closeness between the top executives of a company or the largest shareholder and heads of state, ministers, or members of parliament; (b) affiliation with an individual who has held the position of head of state or prime minister; (c) the transition of a former top executive or major shareholder to the political realm; and (d) relationships with foreign politicians. A company is categorized as having political connections if at least one major shareholder (with at least 10% ownership of voting rights) or one member of the executive leadership,

such as a CEO, president, vice president, chairman, or secretary, has a relationship with a government official, member of parliament, minister, or political party (Faccio, 2006).

2.7 Hypothesis

According to Elkingkton (1999) sustainable business demands the simultaneous fulfillment of economic, environmental, and social goals. The environmental aspect, namely green innovation, helps companies gain higher social legitimacy and the support of investors, customers, and regulators. The application of green innovation can improve the company's environmental performance, so that it can attract investors. The greater the interest of investors, the higher the value of the company (Agustia et al., 2019; Damas et al., 2021). In line with research (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013; Damas et al., 2021; Ramadhan et al., 2023; Yuniarti et al., 2022) that green innovation has a significant positive effect on the company's value. However, green innovation can have a significant negative effect on the company's value (Yao et al., 2019; Yuliandhari et al., 2023). Research shows that green process innovation with long-term benefits has a positive relationship, but it is different from short-term benefits that do not have a significant relationship. In short term reduces the value of the company in the short term (Xie et al., 2022)

The research stated that green innovation does not have a significant effect on the company's value (Ramadhan et al., 2023; Rochmah & Taharuddin, 2024; Xie et al., 2022). The high cost of innovation has the potential to reduce profits, making it an important factor in investor consideration. Another research stated that green innovation has a significant effect on financial performance (Amalia, 2023; Ramadhan et al., 2023; Yuniarti et al., 2022). The implementation of green innovations allows companies to save resources, minimize waste, reduce operational costs, while strengthening the company's image. Companies with green innovations operate under stricter regulations and environmental norms than non-innovative companies. This condition shows that the company's management policies and practices are greatly influenced by the national institutional framework (Aguilera-Caracuel & Ortiz-de-Mandojana, 2013). Political connections can hinder green innovation (Yang & Xu, 2022). Government pressure on companies with political connections can increase agency costs and undermine the positive influence of ESG on financial performance (Marie et al., 2024). So, the hypothesis in this study:

H1: Green Innovation has a significant effect on Financial Performance
H2: Green Innovation has a significant effect on Firm Value
H3: Green Innovation has a significant effect indirectly through Financial Performance on Firm Value
H4: Political Connection strengthens the influence of Green Innovation on Financial Performance
H5: Political Connection strengthens the influence of Green Innovation on Firm Value

3. METHODOLOGY

This study uses an explanatory quantitative design to examine the causal relationship between green innovation on corporate value through financial performance mediation and political connection moderation. The unit of analysis in this study is a company listed on the Indonesia Stock Exchange (IDX), with the focus of the research location on secondary data sourced from the annual report and sustainability report which is publicly accessed through the company's official website and the IDX. The sampling technique was carried out through the purposive sampling method with criteria, namely companies that are registered in the Ministry of Environment's PROPER rating and publish complete financial data during the observation period. From these criteria, 50 observation samples were obtained as a database. The data collection period is carried out in the annual report and sustainability report 2020-2024.

The data analysis in this study used *the Partial Least Square* (PLS) method with SmartPLS 4.0 software. The PLS technique was chosen for its ability to handle complex research models involving simultaneous mediation and moderation variables, as well as its flexibility to sample size and data distribution. The research instruments were measured using a ratio scale for company value (Tobin's Q) and financial performance (ROA), an ordinal scale for green innovation (PROPER rating), and a nominal scale (dummy) for political connections. Before testing the hypothesis, *an evaluation of the outer model* is

carried out through validity tests (convergent and discriminatory) and reliability tests (*Cronbach's Alpha* and *Composite Reliability*) to ensure the consistency and accuracy of the measuring tools. The *internal evaluation of the model* is then carried out through *a bootstrapping* procedure to test the significance of the relationship between variables, so as to provide an accurate picture of the predictive influence in the constructed structural model. The variables of this study consist of green innovation as the independent variable, political relations as a moderate variable, financial performance as a mediate variable and firm value as the dependent variable. The measurement of these variables is shown in Table 1.

Table 1. Variable Measurement

Variable	Measurement
Green Innovation (PROPER/ Corporate Performance Rating Program) by the Ministry of Environment.	Given a score of 5 for Gold: 4 for Green: 3 for Blue: 2 for Red: 1 for Black.
Firm Value (Weston & Copelan, 2008:244)	Market Enterprise Value Total Asset Replecment Value
Financial Performance (Hutabarat (2021:2)	Net Profit Total Assets
Political Connection (Faccio, 2006)	A score of 1 is given if the company has a political connection and 0 if otherwise.

Source: Processed from primary data (2025)

4. RESULT AND DISCUSSION

Descriptive statistical analysis was conducted to offer an overview of the research variables. The results indicate that the Political Connection (PC) variable has a mean value of 0.800, ranging from 0 to 1, suggesting that most firms in the sample maintain political connections, with a moderate level of data dispersion as reflected by a standard deviation of 0.400. Firm Value (FV) shows a mean of 1.083 with values spanning from 0.720 to 2.170 and a relatively low standard deviation of 0.297, while its high kurtosis (4.858) suggests a more peaked distribution compared to normality. Financial Performance (FP) records a mean of 0.095 within a range of −0.100 to 0.450, exhibiting the smallest dispersion (SD = 0.100), implying that firm performance data cluster closely around the mean. In contrast, the Green Innovation (GI) variable demonstrates the highest mean (3.421) and the widest range (1.000–4.767) with a standard deviation of 0.917, indicating greater variability across firms in adopting green innovation practices. See Table 2

Table 2. Descriptive Statistic

	Min	Max	Mean	Median	St Dev
GI	1,000	4,767	3,421	3,528	0,917
FP	-0,100	0,450	0,095	0,070	0,100
FV	0,720	2,170	1,083	0,980	0,297
PC	0,000	1.000	0,800	1,000	0,400

Source: Processed from primary data (2025)

In the PLS analysis, statistical testing of each relationship proposed in the hypothesis is carried out through a simulation method, namely the bootstrap method. This method is applied to the data sample to address potential problems over the abnormality of the research data. The results of the test between variables directly using bootstrapping in this PLS analysis can be seen in Table 3.

Table 3. Coefficients Bootstrapping (Direct Effect)

	Original sample	Sample mean	St. Deviation	T statistics	P values
FP – FV	0,067	0,079	0,133	0,504	0,614
GI – FP	0,252	0,253	0,116	2,164	0,031
GI – FV	0,051	0,050	0,124	0,412	0,681

Source: Processed from primary data (2025)

Based on the results of the Table 3 test, the data analysis provides a comprehensive picture of the dynamics of the relationship between variables in this research model. The test results showed that Green Innovation (GI) had a positive and significant influence on Financial Performance (FP) with a path coefficient value (β) of 0.252, T-statistical value of 2.164, and *a P-value* of 0.031 (< 0.05). This proves that investment in green innovation in the energy sector is able to create operational efficiencies that significantly increase the company's internal profitability. However, this internal efficiency has not been able to be transmitted to market value, where the direct influence of Green Innovation (GI) on Firm Value (FV) is detected to be insignificant (β=0.051; p=0.681). This condition is exacerbated by the finding that Financial Performance (FP) also does not have a significant influence on Firm Value (FV) (β=0.067; p=0.614). Overall, this data reveals the existence of an information gap in the Indonesian capital market; Although green innovation has succeeded in improving the company's financial performance, investors have not appreciated the economic value of these sustainability activities or the profitability figures generated, indicating that the company's value is more influenced by non-financial factors or other institutional conditions.

This study measures the influence between indirect constructs, namely the influence that occurs through a mediate variable. Based on the structural model of the research, an indirect influence was formed, namely the influence of green innovation on firm value with financial performance as a mediator. The test results from this PLS analysis can be seen in Table 4.

Table 4. Coefficients Bootstrapping (Indirect Effect)

	Original sample	Sample mean	Std dev	T statistic	P values
GI-FP-FV	0,017	0,020	0,040	0,424	0,672

Source: Processed from primary data (2025)

The results of the indirect influence test showed that Financial Performance (FP) was not able to mediate the relationship between Green Innovation (GI) and Firm Value (FV), with a very low path coefficient value of 0.017, a T-statistic of 0.424, and a *P-value* of 0.672 (> 0.05). These findings indicate that while green innovation has been proven to improve a company's financial performance internally, the increase in profitability is not strong enough to trigger an increase in the company's market value. The insignificance of this mediation path occurs because the downstream path of the model, namely the influence of financial performance on the company's value, is also not significant, so that the positive signal of resource efficiency generated by green innovation is stopped at the level of accounting performance and is not absorbed by the capital market. Theoretically, this underscores the constraints in the value transmission mechanism in Indonesia's energy sector, where investors do not necessarily associate environmentally-based operational efficiency with the company's value prospects, which at the same time provides a strong justification for why moderation variables such as political connections are crucial in bridging the value gap. See Table 5

Table 5. Path Coefficients (Political Connection as moderating)

	Original sample	Sample mean	St. dev	T statistics	P values
GI – FP	0,304	0,302	0,155	1,963	0,050
GI – FV	0,244	0,263	0,120	2,031	0,042

Source: Processed secondary data, 2025

The role of political connections has proven to be the main differentiating factor that converts the benefits of green innovation into market value. In companies with political networks, green innovation significantly improved financial performance ($\beta=0.304$; $p=0.050$) and company value ($\beta=0.244$; $p=0.042$). These results confirm that in a market with the characteristics of a state-dominated economy such as Indonesia, political connections act as an institutional asset that mitigates the risk of green investment uncertainty. On the other hand, in companies without political connections, it is possible that the cost burden of innovation has a negative impact on the company's value. This provides a strong alternative explanation that the effectiveness of green innovation does not stand alone, but rather relies heavily on the ability of companies to navigate institutional barriers. Political connections provide privileged access to strategic resources and regulatory protections, so that the agency's costs of large environmental investments can be compensated by political advantages and ease of access to capital that non-connected companies do not have.

Broadly, these findings reveal serious challenges in the quality of governance and sustainability in Indonesia. The inequality of the influence of green innovation between politically connected companies and those that are not, shows the issue of inequality of access in the national energy transition. If the market value of green practices can only be enjoyed by entities that have close ties to power actors, then incentives for self-innovation for medium-sized enterprises will be hampered, which in turn could widen the digital and economic divide in the energy sector. As a result, public trust in the Net Zero Emission 2060 commitment can be eroded if it is considered to only benefit certain oligarchic groups. Therefore, these results urge governments and policymakers to design more transparent and inclusive energy transition incentive schemes. Enforcement of environmental regulations such as PROPER must be accompanied by governance reforms that ensure that the economic benefits of a green economy can be felt equally, without relying on political assets, in order to achieve inclusive sustainability and broader social well-being.

5. CONCLUSION

The results of this study show that green innovation has a positive effect on the company's financial performance, but has not been able to increase the company's value directly or through the mediation of financial performance. This shows that the economic benefits of green innovation in Indonesia's energy sector are still internal and long-term, so they have not been fully responded positively by the market. The high cost of implementation and the uncertainty of investment returns make investors tend to be cautious in assessing the added value of these sustainable activities.

Another important finding is the role of political connections as a moderation factor that strengthens the relationship between green innovation, financial performance, and company value. Companies with political connections have proven to be better able to turn green practices into improved financial performance and market value. Access to policy support, ease of regulation, and assurance of business stability make political connections a catalyst that strengthens the effectiveness of sustainable innovation. In contrast, companies without political connections are likely to face structural barriers in deriving economic benefits from green innovation.

Theoretically, these results enrich the understanding of the relationship between agency theory and legitimacy theory in the context of developing countries. The practice of green innovation is not only

driven by shareholder interests or regulatory pressures, but also by the political and institutional structures that affect the effectiveness of sustainability policies.

In terms of policy implications, it is necessary to expand tax incentive schemes, green technology subsidies, and low-carbon financing to reduce the initial cost burden of companies in implementing green innovations. Transparency and inclusive political governance. Given the enormous influence of political connections on company performance and value, a transparent governance system is needed so that policy support is not only enjoyed by certain companies, but also encourages healthy competition in the energy sector. Integration of green indicators in capital market assessments. Financial authorities and stock exchanges can develop a more comprehensive green disclosure and ESG assessment framework so that investors have a clear basis for assessing the economic value of green innovations.

Public-private partnerships for sustainable innovation. The government, research institutions, and industry players need to build strategic collaboration in research and adoption of green technologies, in order to accelerate the clean energy transition while strengthening national competitiveness. Institutional capacity building. Institutional reforms are needed to support the consistent implementation of green policies at all levels of government, so that sustainability policies do not depend on political relations, but on a fair and long-term oriented system. Thus, the results of this study provide an empirical basis for policymakers to reframe energy transition strategies that are not only oriented towards economic growth, but also pay attention to environmental sustainability and transparent governance.

This study has several methodological and contextual limitations that need to be considered in the interpretation of the results. First, the use of a sample limited to 50 companies in the energy sector with a relatively short observation period (2020–2024) limits the ability to generalize findings to other industry sectors and has not been able to capture the time-lag of green investments that usually only generate economic value in the long term. In addition, the cross-sectional design of the study and the use of a single proxie i.e. the PROPER score for green innovation and the dummy variable for political connection tend to simplify the complexity of the phenomenon. This has the potential to not fully reflect the intensity of radical technological innovation or the depth of political influence that companies actually have.

Suggestions for future research are to adopt longitudinal designs with longer time spans (e.g. 10 years) to accurately capture the payback period of green investments to the value of the company. Further research directions also need to expand the scope of analysis through cross-sectoral comparative studies or using more granular measurement indicators, such as environmental R&D spending ratios and composite political connections indexes. In addition, the integration of new moderation variables, such as environmental audit quality or sustainability assurance, is recommended to test whether third-party validation can be an alternative mechanism in building investor trust without having to rely on political connections.

Ethical Approval

This study did not require official ethical permission because it does not involve clinical action, does not involve high-risk groups and does not collect sensitive personal data. The entire study process was carried out with reference to general ethical principles in social research, such as ensuring that participation is voluntary, maintaining the confidentiality of respondents' information and applying the principles of honesty and integrity during the research.

Informed Consent Statement

All participants have received an explanation in advance about the objectives, implementation flow, and expected benefits of this research. Their involvement was voluntary, and informed consent was obtained before they filled out the questionnaire. The respondents were also given the confidence that the data they provided would be kept confidential and used solely for academic research purposes.

Author's Contributions

All authors discussed the results together and approved the final version of the manuscript. SR contributed to the acquisition and processing of research data, including organizing field information and conducting statistical analysis using SmartPLS. SR also interpreted the empirical results and developed the scientific narrative based on the findings. In addition, SR was responsible for drafting the full article, refining the structure of the manuscript, and preparing it for journal submission. PAE contributed to the compilation of previous studies by reviewing relevant literature and mapping research developments in the field. PAE identified conceptual gaps that formed the basis of this study's novelty and assisted in strengthening the theoretical positioning of the research. NDS contributed to determining the measurement instruments used for all variables in the study. NDS ensured that each construct adhered to valid and widely accepted scales in prior research. Additional contributions included reviewing the operational definitions and aligning the measurement indicators with the study's conceptual model.

Disclosure Statement

The authors declare that there is no conflict of interest related to this research

Data Availability Statement

The data supporting this study are not publicly available due to privacy considerations but can be provided upon reasonable request from the corresponding author.

Funding

Notes on Contributors

Siti Rochmah
Siti Rochmah is a lecturer at Politeknik Negeri Banjarmasin specializing in financial management and strategic management. Her research interests include sustainability issues, particularly how environmental initiatives and strategic decision-making influence corporate financial outcomes. She frequently conducts empirical studies related to firm performance, green innovation, and corporate strategies within regulated industries. Her recent works include research on the interaction between institutional factors and financial indicators in assessing firm value.

Putri Aulia Emha
Putri Aulia Emha is a lecturer at Politeknik Negeri Banjarmasin with expertise in entrepreneurship and sustainable business development. Her academic interests focus on how entrepreneurial behavior, innovation capability, and business adaptation contribute to long-term sustainability. In recent years, she has actively explored the integration of sustainability principles into entrepreneurial ecosystems, including the role of green practices in enhancing competitive advantage. Her work often involves mapping research gaps and strengthening theoretical frameworks in sustainability-oriented studies.

Nadila Deryza Syofrin
Nadila Deryza Syofrin is a lecturer at Politeknik Hasnur specializing in management and organizational behavior. His research primarily examines behavioral dynamics within organizations, including leadership, employee responses to strategic change, and organizational readiness for innovation. His focus on organizational behavior provides important insights into how internal structures and human factors influence the adoption of sustainability initiatives, such as green innovation, within Indonesian companies.

REFERENCES

Aguilera-Caracuel, J., & Ortiz-de-Mandojana, N. (2013). Green Innovation and Financial Performance: An Institutional Approach. *Organization and Environment*, *26*(4), 365–385. https://doi.org/10.1177/1086026613507931

Agustia, D., Sawarjuwono, T., & Dianawati, W. (2019). The mediating effect of environmental management accounting on green innovation - Firm value relationship. *International Journal of Energy Economics and Policy*, *9*(2), 299–306. https://doi.org/10.32479/ijeep.7438

Amalia, E. (2023). Analisis Pengaruh Pengungkapan Inovasi Hijau terhadap Profitabilitas pada Perusahaan Nonkeuangan. In *ABIS: Accounting and Business Information Systems Journal* (Vol. 11, Issue 3). https://doi.org/10.22146/abis.v11i3.85680

Apriliani, L. (2023). *Faktor-faktor yang mempengaruhi carbon emission disclosure dan pengaruhnya terhadap nilai perusahaan*. Universitas Lambung Mangkurat.

Bendickson, J., Muldoon, J., Liguori, E. W., & Davis, P. E. (2016). Agency theory: background and epistemology. *Journal of Management History*, 22(4), 437-461.

Burlea, A. S., & Popa, I. (2013). Legitimacy Theory. In *Encyclopedia of Corporate Social Responsibility*. Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-28036-8

Chen, S., Sun, Z., Tang, S., & Wu, D. (2011). Government intervention and investment efficiency: Evidence from China. *Journal of Corporate Finance*, *17*(2), 259–271. https://doi.org/10.1016/j.jcorpfin.2010.08.004

Chen, Y. S., Lai, S. B., & Wen, C. T. (2006). The influence of green innovation performance on corporate advantage in Taiwan. *Journal of Business Ethics*, *67*(4), 331–339. https://doi.org/10.1007/s10551-006-9025-5

Damas, D., Maghviroh, R. EL, & Meidiyah, M. (2021). Pengaruh Eco-Efficiency, Green Inovation Dan Carbon Emission Disclosure Terhadap Nilai Perusahaan Dengan Kinerja Lingkungan Sebagai Moderasi. *Jurnal Magister Akuntansi Trisakti*, *8*(2), 85–108. https://doi.org/10.25105/jmat.v8i2.9742

Dowling, J., & Pfeffer, J. (1975). Legitimasi Organisasi Asosiasi Sosiologi Pasifik: Nilai-Nilai Sosial dan Perilaku Organisasi. In *Source: The Pacific Sociological Review* (Vol. 18, Issue 1).

Elkingkton, J. (1999). Cannibals with forks: the triple bottom line of 21st century business. *Choice Reviews Online*, *36*(07), 36-3997-36–3997. https://doi.org/10.5860/choice.36-3997

Faccio, M. (2006). Politically connected firms. *American Economic Review*, *96*(1), 369–386. https://doi.org/10.1257/000282806776157704

Ganda, F., & Milondzo, K. S. (2018). *The Impact of Carbon Emissions on Corporate Financial Performance: Evidence from the South African Firms*. Sustainability, 10(7), 2398. https://doi.org/10.3390/su10072398

Hutabarat, F. (2021). *Analisis Kinerja Keuangan Perusahaan*. Desenta

IESR. (2024). Indonesia Energy Transition Outlook 2024. *Indonesia Energy Transition Outlook 2024*, *4:2024*, 26–26. www.iesr.or.id

Irnawati, J. (2021). *Nilai Perusahaan dan Kebijakan Deviden Pada Perusahaan Contruction and Engineering Pada Bursa Efek Singapura*. CV Pena Persada.

Jensen, C. M., & Meckeling, H. W. (1976). Theory Of The Firm: Managerial Behavior, Agency Costs And Ownership Structure. *Journal of Financial Economy*, *3*, 305–360. https://doi.org/10.1057/9781137341280.0038

Marie, M., Qi, B., Elgammal, M., & Elnahass, M. (2024). A more sustainable future: Can politically connected CEOs spur the nexus between ESG performance and firm financial performance? *Journal of International Financial Markets, Institutions and Money*, *96*(November 2023), 102056. https://doi.org/10.1016/j.intfin.2024.102056

Ngatno. (2021). *Buku Monograf - Analisis Kinerja Keuangan Perusahaan*. CV Alinea Media Persada. www.penerbitalinea.com

Panda, B., & Leepsa, N. M. (2017). Agency theory: Review of theory and evidence on problems and perspectives. *Indian Journal of Corporate Governance*, 10(1), 74-95.

Ramadhan, P., Rani, P., & Wahyuni, E. S. (2023). Disclosure of Carbon Emissions, Covid-19, Green Innovations, Financial Performance, and Firm Value. *Jurnal Akuntansi Dan Keuangan*, *25*(1), 1–16. https://doi.org/10.9744/jak.25.1.1-16

Ramadhany, A. A., Fadlilah, A. H., Richmayati, M., Mustika, I., & Nabella, S. D. (2021). The Mediation Effect Firm Performance on Green Innovation and Firm Value: Evidence the Mining Industry. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, *12*(3), 1377–1783. https://doi.org/10.17762/turcomat.v12i3.909

Rochmah, S., & Taharuddin. (2024). Pengaruh Carbon Emission Disclosure, Green Innovation, Financial Performance terhadap Firm Value di Mediasi oleh Sustainability Report pada Perusahaan Sektor Energi yang terdaftar di BEI periode 2019-2022. *Jurnal Bisnis dan Pembangunan*, *13*(3), 236–248. https://doi.org/10.20527/jbp.1313i3.48

Saputra, I. P., & Soewarno, N. (2024). Green innovation and Company Performance Mediated by Political Powers: Study in Capital City in Indonesia. *Quality - Access to Success*, *25*(200), 69–76. https://doi.org/10.47750/QAS/25.200.08

Wang, B., Peng, C., Wu, J., & Liao, F. (2022). The impact of political connections on corporate green innovation: The mediating effect of corporate social responsibility and the moderating effect of environmental public opinion. *Sustainability*, *14*(8), 4708. https://doi.org/10.3390/su14084708

Weston, J. F., & Copeland, T. E. (2008). *Manajemen keuangan* (Edisi revisi). Jakarta: Binarupa Aksara.

Wu, W., Wu, C., & Rui, O. M. (2012). Ownership and the Value of Political Connections: Evidence from China. *European Financial Management*, *18*(4), 695–729. https://doi.org/10.1111/j.1468-036X.2010.00547

Xie, Z., Wang, J., & Zhao, G. (2022). Impact of Green Innovation on Firm Value: Evidence From Listed Companies in China's Heavy Pollution Industries. *Frontiers in Energy Research*, *9*. https://doi.org/10.3389/fenrg.2021.806926

Yang, Q., & Xu, S. (2022). The Relationship between the Political Connections and Green Innovation Development of Chinese Enterprises—Empirical Analysis Based on Panel Data of Chinese A-Share Listed Companies. *Sustainability (Switzerland)*, *14*(20). https://doi.org/10.3390/su142013543

Yao, Q., Liu, J., Sheng, S., & Fang, H. (2019). Does eco-innovation lift firm value? The contingent role of institutions in emerging markets. *Journal of Business and Industrial Marketing*, *34*(8), 1763–1778. https://doi.org/10.1108/JBIM-06-2018-0201

Yuliandhari, W. S., Saraswati, R. S., & Rasid Safari, Z. M. (2023). Pengaruh Carbon Emission Disclosure, Eco-Efficiency dan Green Innovation Terhadap Nilai Perusahaan. *Owner*, *7*(2), 1526–1539. https://doi.org/10.33395/owner.v7i2.1301

Yuniarti, R., Soewarno, N., & Isnalita. (2022). Green Innovation on Firm Value With Financial Performance As Mediating Variable: Evidence of the Mining Industry. Asian Academy of Management Journal, 27(2), 41–58. https://doi.org/10.21315/aamj2022.27.2.3