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CORPORATE TAX AGGRESSIVENESS IN THE DIGITAL AND GREEN TRANSITION: EVIDENCE FROM HIGH-POLLUTING FIRMS IN INDONESIA

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ABSTRACT

This study aims to examine the effects of digital transformation, green innovation, and environmental performance on corporate tax aggressiveness among high-polluting firms listed on the Indonesia Stock Exchange during the 2023–2025 period. This quantitative study employs multiple linear regression analysis using 108 firm-year observations. The theoretical framework is based on Stakeholder Theory, which emphasizes the importance of corporate transparency and accountability in meeting stakeholder expectations. The results indicate that digital transformation and green innovation have negative and statistically significant effects on corporate tax aggressiveness, whereas environmental performance has no statistically significant effect. These findings suggest that digital capabilities and environmentally oriented innovation are associated with corporate tax behavior, while environmental performance has not been shown to have a significant relationship with tax aggressiveness. This study contributes to the literature by extending the discussion of factors associated with corporate tax aggressiveness among high-polluting firms in Indonesia. In practical terms, the findings highlight the importance of strengthening digital transformation, fostering green innovation, and enhancing corporate transparency and accountability in environmental management and tax obligations

Keywords: *digital transformation; green innovation; environmental performance; corporate tax aggressiveness; high-polluting firms.*

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh transformasi digital, inovasi hijau, dan kinerja lingkungan terhadap agresivitas pajak pada perusahaan berpolusi tinggi yang terdaftar di Bursa Efek Indonesia selama periode 2023–2025. Penelitian ini menggunakan pendekatan kuantitatif dengan analisis regresi linear berganda terhadap 108 observasi perusahaan-tahun. Kerangka teoretis yang digunakan adalah Stakeholder Theory, yang menjelaskan pentingnya transparansi dan akuntabilitas perusahaan dalam memenuhi ekspektasi pemangku kepentingan. Hasil penelitian menunjukkan bahwa transformasi digital dan inovasi hijau berpengaruh negatif dan signifikan terhadap agresivitas pajak, sedangkan kinerja lingkungan tidak berpengaruh signifikan. Temuan ini menunjukkan bahwa kapabilitas digital dan inovasi yang berorientasi lingkungan memiliki keterkaitan dengan perilaku perpajakan perusahaan, sementara kinerja lingkungan belum terbukti memiliki hubungan yang signifikan. Penelitian ini memberikan kontribusi dengan memperluas kajian mengenai faktor-faktor yang berkaitan dengan agresivitas pajak pada perusahaan berpolusi tinggi di Indonesia. Secara praktis, hasil penelitian menekankan pentingnya penguatan transformasi digital, pengembangan inovasi hijau, serta peningkatan transparansi dan akuntabilitas perusahaan dalam pengelolaan lingkungan dan kewajiban perpajakan.

Kata Kunci: transformasi digital; inovasi hijau; kinerja lingkungan; agresivitas pajak; perusahaan berpolusi tinggi

1. INTRODUCTION

Taxes are a major source of state revenue and support government expenditure and public services. For companies, taxation also affects financial decisions, reporting, and business strategy (Hanlon & Heitzman, 2010). Although tax planning can be legitimate, corporate tax behavior ranges from the use of lawful

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provisions to more aggressive practices. Tax reporting aggressiveness may involve reducing reported taxable income, while financial reporting aggressiveness may involve increasing accounting earnings (Frank et al., 2009). Tax avoidance and illegal tax conduct should therefore be distinguished, even though both are relevant to discussions of corporate tax aggressiveness (Hanlon & Heitzman, 2010).

Corporate tax behavior is increasingly considered alongside expectations for transparency, social responsibility, and environmental sustainability. Stakeholder Theory holds that corporate continuity depends partly on managing relationships with parties affected by or interested in a company's activities (Freeman, 1984). Donaldson and Preston (1995) describe descriptive, instrumental, and normative perspectives on these relationships, while Mitchell et al. (1997) explain that stakeholder claims vary in power, legitimacy, and urgency. In this context, the government is concerned with tax revenue and compliance, investors with transparency and business sustainability, and society with the social and environmental impacts of business operations. Tax aggressiveness can thus be examined as one dimension of corporate behavior in responding to stakeholder expectations.

Recent Indonesian cases highlight the importance of transparent reporting and tax compliance. In February 2024, the Directorate General of Taxes (DGT) referred a corporate suspect from PT BAPI to prosecutors over alleged tax offenses involving incorrect or unfiled Final Income Tax returns under Article 4(2) for 2018–2019. The alleged state revenue loss was at least IDR 2.907 billion. Environmental management presents a significant challenge for highly polluting industries in Indonesia. This concern was highlighted by the Ministry of Environment and the Environmental Control Agency (KLH/BPLH) following its inspection of the Indonesia Morowali Industrial Park (IMIP) in Central Sulawesi in June 2025. The inspection identified several environmental concerns, including industrial activities covering more than 1,800 hectares that were not included in the approved environmental impact assessment (AMDAL), nickel slag and tailings stockpiles exceeding 10 hectares with an estimated volume of more than 12 million tonnes, and ambient air quality parameters (TSP and PM10) exceeding applicable standards. The authorities also identified emission sources without continuous monitoring systems and inadequate wastewater management (KLH/BPLH, 2025). These findings illustrate the substantial environmental accountability faced by companies operating in high-impact industries, particularly in relation to pollution control, waste management, and regulatory compliance. Such conditions highlight the importance of examining whether companies' environmental practices are also associated with their broader corporate responsibilities, including tax-related decisions.

One potential determinant of tax aggressiveness is digital transformation, understood as the integration of digital technologies into business processes, information management, and decision-making. Such transformation may improve transaction traceability, information quality, process efficiency, and internal monitoring, potentially helping companies respond to stakeholder demands for transparency and accountability. Studies in China have generally associated digital transformation with lower tax avoidance. Xie and Huang (2023) link this relationship to stronger internal control; Chen et al. (2024) highlight lower agency costs and greater media and analyst attention; Zhang and She (2024) emphasize innovation, resource-allocation efficiency, and internal-control quality. However, these mechanisms may depend on how digital technologies are implemented and governed, so lower tax aggressiveness should not be assumed in every setting.

Research in Indonesia has also considered digital transformation and tax behavior. Damayanti et al. (2025) examined digital transformation and market power in relation to tax avoidance, accounting for internal control. Rachmalia and Firmansyah (2025) studied digital transformation and tax avoidance with ESG disclosure as a moderating variable, while

Hidayatulloh et al. (2024) considered digital transformation, media attention, and tax avoidance among Indonesian multinational companies. Thus, the gap is not an absence of research on digital transformation and taxation, but the need to test its relationship with tax aggressiveness alongside environmental variables among highly polluting companies. Findings from other countries or multinational firms may not transfer directly to this setting because industrial, institutional, and tax-system characteristics differ. This study therefore re-examines the relationship among highly polluting companies listed on the Indonesia Stock Exchange (IDX) during 2023–2025.

A second factor is green innovation, defined as the development or adoption of products, processes, or technologies intended to reduce environmental impacts or improve resource efficiency. Porter and Linde (1995) argue that environmental pressures can stimulate innovation and improve competitiveness. Hart (1995) emphasizes natural-resource-related capabilities in business strategy, while Chen et al. (2006) examine green innovation in relation to corporate advantages. From a Stakeholder Theory perspective, green innovation may represent a response to regulators', investors', customers', and communities' environmental expectations. At the same time, it may require investment, technological development, and changes to production processes; its relationship with tax aggressiveness is therefore an empirical question rather than an assumed outcome.

Evidence on green innovation and tax behavior is still context-dependent. Tyan et al. (2024) found that green innovation affected tax aggressiveness among manufacturing companies listed on the IDX during 2018–2022, whereas capital intensity and green accounting were not significant in their tested model. Souguir et al. (2024) studying French companies, found positive relationships between environmental performance and tax avoidance and between eco-innovation and tax avoidance. Eco-innovation is related to, but not necessarily identical to, green innovation. Moreover, green innovation differs from green accounting: the former concerns environmentally oriented products and processes, while the latter concerns accounting for environmental costs and related information. Differences in country, industry, period, and measurement mean that prior findings cannot be generalized without further testing. This study extends the evidence by examining green innovation alongside digital transformation and environmental performance in a sample of highly polluting Indonesian companies, rather than claiming that this relationship has never been studied.

The third factor is environmental performance, or a company's achievements in managing the environmental effects of its operations. It may be reflected in regulatory compliance, pollution control, waste management, resource efficiency, or the environmental indicators applied in a particular study. Sari and Tjen (2016) examined CSR disclosure, environmental performance, and tax aggressiveness among non-financial companies listed on the IDX. They found a negative association between CSR disclosure and tax aggressiveness, with environmental performance strengthening that relationship. Because environmental performance was considered alongside CSR disclosure, however, their findings do not establish that environmental performance independently and invariably reduces tax aggressiveness.

Other studies report different results. Souguir et al. (2024) found a positive association between environmental performance and tax avoidance among French companies. Gunadi et al. (2025) found a positive association between ESG performance and the effective tax rate (ETR), consistent with lower tax aggressiveness under that proxy, while Jiang et al. (2024) associated ESG performance with lower tax avoidance among Chinese companies. ESG performance incorporates environmental, social, and governance dimensions and is not equivalent to environmental performance alone. The evidence therefore remains mixed, and further testing should distinguish environmental performance from overall ESG performance

and from its role as a moderator of CSR disclosure.

Taken together, previous studies reveal three related research needs. First, although digital transformation has been linked to tax avoidance through internal control and external monitoring (Chen et al., 2024; Xie & Huang, 2023; Zhang & She, 2024). Indonesian studies have used different contexts and model specifications (Damayanti et al., 2025; Hidayatulloh et al., 2024; Rachmalia & Firmansyah, 2025). Second, findings on green innovation and related constructs differ between Indonesian manufacturing companies and French companies (Souguir et al., 2024; Tyan et al., 2024). Third, environmental performance has been examined in relation to CSR disclosure and tax aggressiveness, while other studies have focused on the broader ESG construct (Gunadi et al., 2025; Jiang et al., 2024; Sari & Tjen, 2016; Souguir et al., 2024). These constructs and research designs are not interchangeable, and their relationships with tax behavior remain unsettled.

A further gap is the limited integration of digital transformation, green innovation, and environmental performance in one empirical framework focused on highly polluting Indonesian companies. These variables represent distinct dimensions: digital transformation concerns technological and organizational processes; green innovation concerns environmentally oriented products and processes; and environmental performance captures the outcomes of environmental management (Chen et al., 2006; Sari & Tjen, 2016; Xie & Huang, 2023). Within Stakeholder Theory, these dimensions may reflect corporate responses to different stakeholder demands (Donaldson & Preston, 1995; Freeman, 1984; Mitchell et al., 1997). However, environmental responsibility does not automatically imply lower tax aggressiveness, as research on corporate responsibility and tax behavior has produced mixed findings (Richardson et al., 2016; Souguir et al., 2024).

Accordingly, this study examines the effects of digital transformation, green innovation, and environmental performance on tax aggressiveness among highly polluting companies listed on the IDX during 2023–2025, including firms in industries such as pulp and paper, chemicals, oil and gas, metals and mining, and utilities (Clarkson et al., 2008). Its contribution lies in integrating three conceptually distinct variables in one model and testing them in an Indonesian industrial context characterized by substantial environmental impacts. Previous studies have reported varying relationships between environmental practices and corporate tax behavior across different research settings (Sari & Tjen, 2016; Souguir et al., 2024; Tyan et al., 2024), highlighting the need for further empirical evidence in this context. The findings are expected to extend the application of Stakeholder Theory to corporate digital and environmental responses, and to provide evidence relevant to companies, investors, environmental regulators, and tax authorities assessing the relationship between environmental management and corporate tax behavior.

2. LITERATURE REVIEW

Stakeholder Theory

Stakeholder Theory emphasizes that companies should consider the interests of various stakeholders rather than focusing solely on shareholders (Freeman, 1984). Donaldson & Preston (1995) descriptive, instrumental, and normative dimensions of stakeholder relationships, while Mitchell et al. (1997) explain that stakeholder priorities are influenced by power, legitimacy, and urgency. In this study, relevant stakeholders include the government, which emphasizes tax compliance; investors, who expect transparency and business sustainability; and society, which demands environmental responsibility.

Recent empirical studies have increasingly examined corporate tax avoidance from a stakeholder perspective, emphasizing that tax decisions are not merely financial strategies but also reflect corporate responsibilities toward governments and society. Struyfs and Thijssens (2026) for example, applied Stakeholder Theory to investigate the relationship between corporate engagement with the Sustainable

Development Goals (SDGs) and tax avoidance. Their findings indicate that social SDG engagement was associated with lower tax avoidance during the COVID-19 pandemic, particularly among firms with stronger corporate governance. Although the relationship was not statistically significant under normal circumstances, the study highlights the importance of consistency between corporate sustainability commitments and tax-related behavior. From a stakeholder perspective, companies that demonstrate a commitment to societal well-being are expected to consider the broader consequences of their tax decisions, as corporate tax payments contribute to government revenue and the provision of public goods.

Similarly, Nguyen et al. (2026) examined the relationship between corporate social responsibility (CSR) disclosure and tax avoidance in Vietnamese non-financial firms, drawing on Stakeholder Theory and Agency Theory. Their findings demonstrate that higher CSR disclosure is associated with lower tax avoidance, while board independence strengthens this negative relationship. This suggests that transparency and effective corporate oversight may encourage companies to adopt more accountable tax practices. In another emerging-market context, Abu-Nassar et al. (2026) investigated the relationship between CSR and tax avoidance among manufacturing firms in Jordan using Stakeholder Theory and Legitimacy Theory. Their results indicate that CSR is associated with lower tax avoidance, although political connections weaken this relationship. These findings suggest that corporate responsibility toward stakeholders may encourage more compliant tax behavior, but the extent of this relationship can depend on governance structures and institutional conditions.

Taken together, these empirical studies provide evidence that corporate responsibility toward stakeholders is associated with corporate tax behavior, although the relationship is influenced by organizational and institutional conditions. Struyfs and Thijssens (2026) highlight the relevance of corporate SDG engagement in explaining tax avoidance, while Nguyen et al. (2026) demonstrate that CSR disclosure is associated with lower tax avoidance. Similarly, Abu-Nassar et al. (2026) show that the relationship between CSR and tax avoidance may be affected by political connections. Collectively, these findings suggest that corporate commitments to sustainability and stakeholder accountability may influence tax-related decisions, but their implications are not necessarily uniform across different contexts. Nevertheless, previous studies have primarily focused on CSR disclosure and broader sustainability commitments rather than examining digital transformation, green innovation, and environmental performance simultaneously. Therefore, the present study extends this discussion by investigating these three distinct dimensions of corporate practices in relation to tax aggressiveness among highly polluting firms in Indonesia.

Overall, Stakeholder Theory provides the theoretical foundation for understanding how companies respond to the expectations and interests of different stakeholder groups. In the context of this study, digital transformation is viewed as an organizational capability that may strengthen transparency and accountability, green innovation represents a strategic response to environmental demands, and environmental performance reflects the outcomes of corporate environmental management. These three dimensions illustrate different ways in which companies respond to stakeholder expectations, particularly in industries with substantial environmental impacts. However, stakeholder-oriented practices may vary in their implementation and do not necessarily produce similar corporate outcomes. Therefore, this study applies Stakeholder Theory to examine whether technological and environmental practices are associated with corporate tax aggressiveness among highly polluting firms.

Corporate Tax Aggressiveness

Corporate tax aggressiveness refers to corporate strategies aimed at reducing tax liabilities, ranging from the use of legal tax provisions to more aggressive practices that may involve noncompliance (Hanlon & Heitzman, 2010).

Therefore, tax aggressiveness should be distinguished from tax crimes, as a low effective tax rate does not necessarily indicate illegal conduct. Its assessment depends on the measurement applied and the company's financial and tax reporting context.

Frank et al. (2009) found a positive association between tax reporting aggressiveness and financial reporting aggressiveness, suggesting that companies may seek to reduce taxable income while reporting higher accounting earnings. Dyreng et al. (2017) demonstrated that companies differ in their ability to maintain low long-term effective tax rates and that annual rates may not accurately represent long-term tax avoidance. Common measurement proxies include the effective tax rate (ETR), based on income tax expense relative to pre-tax income, and the cash effective tax rate (CETR), based on cash taxes paid relative to pre-tax income.

From a Stakeholder Theory perspective, tax aggressiveness concerns the government's interest in tax revenue, investors' concerns about corporate performance and risk, and society's expectations regarding corporate contributions to public welfare (Donaldson & Preston, 1995; Freeman, 1984). However, responding to stakeholder expectations does not necessarily result in lower tax aggressiveness. Accordingly, this study examines whether digital transformation, green innovation, and environmental performance are associated with tax aggressiveness among highly polluting companies listed on the Indonesia Stock Exchange.

Based on the reviewed literature, corporate tax aggressiveness should be understood as a complex corporate decision that involves the management of tax liabilities while considering regulatory requirements and stakeholder expectations. Although companies may have incentives to minimize their tax burdens, such decisions can also affect government revenue, public welfare, and perceptions of corporate accountability. From the perspective of this study, tax aggressiveness is not merely a reflection of financial strategies but also represents an aspect of corporate responsibility toward external stakeholders. Its interpretation should consider the measurement employed, as different tax proxies may reflect different aspects of corporate tax behavior. Accordingly, examining digital transformation, green innovation, and environmental performance provides an opportunity to understand whether corporate technological and environmental practices are associated with tax-related decisions.

Digital Transformation

Digital transformation refers to the integration of digital technologies into business processes, information management, and decision-making to improve operational efficiency and organizational capabilities. It involves not only technology adoption but also changes in how companies manage resources and conduct their operations.

From a Stakeholder Theory perspective, companies should consider the interests of stakeholders, including investors, employees, government, regulators, and society (Donaldson & Preston, 1995; Freeman, 1984). Digital transformation can support these relationships by improving information quality, transparency, accountability, and internal control through data integration and process automation. However, its effectiveness depends on how well digital technologies are integrated into business processes and corporate governance. Therefore, digital transformation is relevant to examining how companies respond to stakeholder expectations and whether these changes are associated with corporate tax behavior.

Taken together, the literature suggests that digital transformation may influence corporate tax behavior through improvements in information quality, transaction traceability, internal controls, and organizational transparency. Previous studies have identified mechanisms through which digital technologies may be associated with lower tax avoidance, particularly by strengthening internal monitoring and improving the availability of corporate information (Xie & Huang, 2023; Zhang & She, 2024). Nevertheless, the adoption of digital technologies does not automatically

guarantee responsible tax behavior, as its effectiveness depends on the extent to which these technologies are integrated into business processes and corporate governance. From the perspective of this study, digital transformation represents an organizational capability that may strengthen corporate accountability toward stakeholders, including the government. Therefore, its association with corporate tax aggressiveness warrants further examination, particularly among highly polluting firms operating in Indonesia.

Green Innovation

Green innovation refers to the development or adoption of products, processes, and technologies that reduce environmental impacts. It includes the use of environmentally friendly materials, energy and resource efficiency, waste and emission reduction, and more sustainable production methods. Chen et al. (2006) distinguish between green product innovation, which focuses on products with lower environmental impacts, and green process innovation, which aims to reduce energy consumption, hazardous materials, and pollution during production.

From a Stakeholder Theory perspective, green innovation represents a potential corporate response to the environmental expectations of stakeholders, including governments, consumers, investors, and society (Donaldson & Preston, 1995; Freeman, 1984). This is particularly relevant for highly polluting companies, as adopting environmentally friendly technologies and processes may require substantial investment and operational changes. The extent of green innovation may therefore vary according to companies' resources, technological capabilities, and business characteristics. Accordingly, green innovation provides a basis for examining how companies respond to stakeholder demands for environmental responsibility and integrate sustainability into their business activities.

Overall, green innovation reflects a company's efforts to integrate environmental considerations into its products, production processes, and technological development. Previous research indicates that green innovation is relevant to corporate tax behavior, although its implications may differ depending on industry characteristics, investment requirements, and institutional conditions (Tyan et al., 2024; Souguir et al., 2024). From the perspective of this study, green innovation can represent a substantive response to stakeholder demands for environmental responsibility, particularly for companies whose operations generate considerable environmental impacts. However, the costs associated with research, technology adoption, and production adjustments may also influence corporate financial and tax decisions. Consequently, green innovation should not automatically be interpreted as an indicator of lower tax aggressiveness. Its relationship with corporate tax behavior needs to be examined empirically in the context of highly polluting companies.

Environmental Performance

Environmental performance refers to a company's achievements in managing the environmental impacts of its operations, including pollution control, waste and emission reduction, resource efficiency, and compliance with environmental regulations (Albertini, 2016). In Indonesia, corporate environmental performance can be assessed through the Environmental Management Performance Rating Program (PROPER), which uses gold, green, blue, red, and black ratings to reflect companies' environmental management performance and compliance.

From a Stakeholder Theory perspective, companies should consider stakeholders affected by their operations, including local communities, government, regulators, investors, and consumers (Donaldson & Preston, 1995; Freeman, 1984). Environmental performance reflects how companies respond to stakeholder expectations and remain accountable for their operational impacts. It should be distinguished from green innovation: green innovation concerns the development or adoption of environmentally friendly products and processes, whereas environmental performance reflects the outcomes of environmental management. Although green

innovation may support better environmental outcomes, high environmental performance is not guaranteed, as results depend on implementation and operational characteristics. Therefore, environmental performance is relevant for assessing corporate environmental responsibility and its association with tax aggressiveness.

Taken together, previous studies indicate that the relationship between environmental performance and corporate tax behavior remains inconclusive. Sari and Tjen (2016) examined environmental performance alongside CSR disclosure and tax aggressiveness, while Souguir et al. (2024) identified a positive association between environmental performance and tax avoidance. Other studies have examined broader ESG performance, which should be distinguished from environmental performance as a separate construct (Gunadi et al., 2025; Jiang et al., 2024). From the perspective of this study, environmental performance represents the outcomes of a company's environmental management efforts, whereas corporate tax aggressiveness reflects a different dimension of corporate decision-making. Therefore, improvements in environmental performance do not necessarily correspond to changes in tax behavior. This distinction highlights the importance of examining their relationship directly among highly polluting firms in Indonesia.

The Effect of Digital Transformation on Corporate Tax Aggressiveness

Based on Stakeholder Theory, companies should consider the interests of stakeholders in conducting their business activities, including the government as a party concerned with corporate tax compliance. Digital transformation can support corporate transparency and accountability by improving information quality, integrating data, and strengthening internal control systems. These improvements can enhance transaction traceability and strengthen the monitoring of financial and tax information management.

Xie and Huang (2023) found that digital transformation can reduce corporate tax avoidance by improving internal control quality. Consistent with this finding, Chen et al. (2024) (M. Chen et al., 2024)demonstrated that digital transformation is associated with lower tax avoidance, partly through reduced agency costs and increased media and analyst attention to companies. Zhang and She (2024) also found that digital transformation can reduce tax avoidance by improving internal control quality, fostering innovation, and enhancing resource allocation efficiency. These findings indicate that digital transformation is associated with corporate tax behavior.

From a Stakeholder Theory perspective, the transparency and control mechanisms supported by digital transformation may influence how companies manage their tax obligations and respond to stakeholder expectations. However, this relationship requires empirical testing to determine how digital transformation is associated with tax aggressiveness among highly polluting companies in Indonesia. Based on the theoretical arguments and previous research findings, the following hypothesis is proposed:

H1: Digital transformation affects corporate tax aggressiveness.

The Effect of Green Innovation on Corporate Tax Aggressiveness

Based on Stakeholder Theory, companies should consider the interests of stakeholders, including the government, investors, consumers, and society, in conducting their business activities (Donaldson & Preston, 1995; Freeman, 1984). Green innovation represents one form of corporate response to environmental sustainability demands through the development of more environmentally friendly products and production processes. These efforts may reflect a company’s commitment to integrating environmental responsibility into its business strategy.

Companies implementing green innovation may face expectations to maintain consistency between their environmental commitments and business practices. In the context of taxation,

companies seeking to maintain stakeholder trust may have incentives to avoid excessively aggressive tax practices that could generate negative perceptions. On the other hand, investments in green innovation may increase corporate financing needs, meaning that the relationship between green innovation and tax decisions may vary across companies.

Tyan et al. (2024) examined the effect of green innovation on tax aggressiveness among manufacturing companies listed on the Indonesia Stock Exchange during the 2018–2022 period. Their findings indicated that green innovation had a significant effect on tax aggressiveness. This result suggests that green innovation is a relevant factor to consider when examining corporate tax decisions in Indonesia.

From a Stakeholder Theory perspective, companies that integrate environmental responsibility into their business strategies need to consider accountability in fulfilling their tax obligations and maintaining stakeholder trust. However, the relationship between green innovation and tax aggressiveness requires empirical testing because environmental investments and tax considerations may have different implications for individual companies. Based on the theoretical arguments and previous research findings, the second hypothesis is formulated as follows:
H2: Green innovation affects corporate tax aggressiveness.

The Effect of Environmental Performance on Corporate Tax Aggressiveness

According to Stakeholder Theory, companies should consider the interests of stakeholders affected by their operational activities, including the government, investors, society, and parties concerned with environmental sustainability (Donaldson & Preston, 1995; Freeman, 1984). Environmental performance reflects a company's achievements in managing the environmental impacts of its business activities. Strong environmental performance may indicate a company's efforts to fulfill its environmental responsibilities and respond to stakeholder expectations.

Companies with strong environmental performance may be motivated to maintain their reputation and stakeholder trust. This motivation may be related to their decisions regarding tax compliance, as tax payments represent one form of corporate contribution to the state. Conversely, tax practices perceived as overly aggressive may raise questions about the consistency between a company's demonstrated environmental responsibility and its responsibilities toward other stakeholders. Therefore, environmental performance is a relevant aspect to examine when explaining corporate tax behavior.

However, strong environmental performance does not necessarily indicate a low level of tax aggressiveness. Companies may demonstrate strong environmental performance while simultaneously engaging in tax planning to reduce their tax burdens. Souguir et al. (2024), in their study of French companies, found a positive relationship between environmental performance and tax avoidance. Their study also examined eco-innovation; therefore, its findings should be distinguished from those of studies that specifically measure green innovation. These results indicate that the relationship between environmental performance and corporate tax behavior may vary and does not always support the assumption that strong environmental performance is associated with lower tax avoidance.

From a Stakeholder Theory perspective, this relationship may reflect differences between a company's environmental responsibilities and its decisions regarding tax obligations. Companies may seek to meet environmental expectations while also considering their economic interests through tax-related decisions. Accordingly, the relationship between environmental performance and tax aggressiveness requires empirical testing, particularly among companies with relatively substantial environmental impacts. Based on the theoretical arguments and previous research findings, the third hypothesis is formulated as follows:

H3: Environmental performance affects corporate tax aggressiveness.

3. RESEARCH METHODS

This study adopts a quantitative research design with an explanatory approach to examine the causal relationships between the independent and dependent variables (Ghozali, 2021). The analysis focuses on the effects of digital transformation, green innovation, and environmental performance on corporate tax aggressiveness. The quantitative approach is employed because the data are numerical and the research requires empirical hypothesis testing using statistical techniques.

The unit of analysis is the firm belonging to high-pollution-propensity industries and listed on the Indonesia Stock Exchange (IDX) during the 2023–2025 period. Following Clarkson et al. (2008), these industries include pulp and paper, chemicals, oil and gas, metals and mining, and utilities. These industries were selected because their operational activities are associated with environmental impacts and exposure to environmental regulations. Focusing on firms in these industries is expected to provide a relevant context for examining the relationships of digital transformation, green innovation, and environmental performance with tax aggressiveness.

The sample was selected using purposive sampling based on specific criteria aligned with the research objectives. These criteria include the availability of complete annual reports and financial statements throughout the observation period, as well as the completeness of the data required to measure the research variables. Accordingly, the selected sample is expected to adequately represent the characteristics of the population.

The study uses secondary data obtained from companies' annual reports, financial statements, and environmental performance records. Data were collected from the official Indonesia Stock Exchange website, company websites, and relevant environmental performance assessment records. The operational definitions, measurement procedures, and references for each research variable are presented in Table 1.

Table 1. Operational Definitions and Measurements of Variables

Variable	Definition	Measurement	Reference
CTA	Corporate efforts to reduce tax liabilities through tax planning.	(Cash Tax Paid/Pre-tax Income)	Hanlon & Heitzman (2010)
DT	Integration of digital technologies into business processes and management.	Digital Indicators Disclosed/Total Digital Indicators	Xie & Huang (2023)
GI	Adoption of environmentally friendly products, processes, and technologies.	1 = disclosed; 0 = otherwise	Chen et al. (2006)
EP	Corporate achievements in managing environmental impacts and compliance.	PROPER Rating Scale (1-5)	Albertini (2016)

Source: Compiled by the authors (2026).

The regression model used in this study is formulated as follows:

$$CTA = \alpha+\beta1DT+\beta2GI+\beta3EP+\varepsilon$$

Where:
CTA = Corporate Tax Aggressiveness
DT = Digital Transformation
GI = Green Innovation
EP = Environmental Performance
α = Constant
β = Regression coefficient
ε = Error term

Hypothesis testing is conducted using the t-test to evaluate the partial effect of each independent variable and the F-test to examine the simultaneous effect of the independent variables on the dependent variable. In addition, the coefficient of determination (R^2) is used to assess the model's ability to explain variations in tax aggressiveness.

4. RESULTS AND DISCUSSION

Result

The analysis began with descriptive statistics to provide an overview of the characteristics of the research data. The descriptive statistics present the minimum, maximum, mean, and standard deviation for each research variable: tax aggressiveness, digital transformation, green innovation, and environmental performance. The analysis then proceeded with classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, to assess whether the regression model met the required assumptions. Subsequently, model fit was evaluated using the coefficient of determination (R^2) and the F-test to assess the model's explanatory power and the joint relationship among the variables. Finally, hypothesis testing was conducted using the t-test to examine the partial effects of each independent variable—digital transformation, green innovation, and environmental performance—on tax aggressiveness.

Table 2. Descriptive Statistics

Variable	N	Min	Max	Mean	Std. Dev
DT	108	0.239	0.715	0.468	0.252
GI	108	0	1	0.379	0.298
EP	108	1	4	2.892	0.311
CTA	108	0.112	0.378	0.201	0.164
Valid N	108				

Source: Processed data (2026)

Based on Table 2, the digital transformation variable has a minimum value of 0.239 and a maximum value of 0.715, with a mean of 0.468 and a standard deviation of 0.252. The mean represents the level of corporate digital transformation based on the measurement scale used in this study. The standard deviation, which is lower than the mean, indicates variation in digital transformation across observations.

The green innovation variable has a minimum value of 0 and a maximum value of 1, with a mean of 0.379 and a standard deviation of 0.298. The mean indicates an average green innovation value of 0.379. If the variable is measured using a binary indicator, this value suggests that 37.9% of the firm observations have the green innovation indicator, while the remaining 62.1% do not. The standard deviation of 0.298 reflects variation in green innovation adoption across firm observations.

The environmental performance variable has a minimum value of 1 and a maximum value of 4, with a mean of 2.892 and a standard deviation of 0.311. The mean of 2.892 indicates that the environmental performance of the sampled companies tends to be around rating 3, corresponding to the blue category in the PROPER rating system. Meanwhile, the standard deviation of 0.311 indicates that variation in environmental performance is relatively small compared with the measurement range. This suggests that environmental performance values across firm observations tend to be concentrated around the mean.

The corporate tax aggressiveness variable has a minimum value of 0.112 and a maximum value of 0.378, with a mean of 0.201 and a standard deviation of 0.164. The mean indicates an average tax aggressiveness value of 0.201 based on the measurement scale applied after transformation. The standard deviation of 0.164 indicates variation in tax aggressiveness across firm observations. Since the tax aggressiveness variable was transformed by multiplying the initial proxy by −1, its interpretation should follow the operational definition and transformation procedure applied in this study.

Table 3. Normality Test

	Unstandardized Residual	**Description**
Asymp. Sig. (2-tailed)	0.146	Normally distributed

Source: Processed data (2026)

Based on the results presented in Table 3, the Asymp. Sig. (2-tailed) value is 0.146. Since this value is greater than 0.05, the residuals in this study can be considered normally distributed. Therefore, the regression model satisfies the normality assumption and is suitable for further analysis. This result indicates that the data do not exhibit substantial deviations from normality, supporting more reliable estimation in the regression analysis.

Table 4. Multicollinearity Test

Model (Constant)	*Tolerance*	VIF	Description
DT	0.572	1.786	No multicollinearity
GI	0.554	1.639	No multicollinearity
EP	0.619	1.647	No multicollinearity

Source: Processed data (2026)

Based on the results presented in Table 4, digital transformation (DT) has a tolerance value of 0.572 and a VIF value of 1.786. Green innovation (GI) has a tolerance value of 0.554 and a VIF value of 1.639, while environmental performance (EP) has a tolerance value of 0.619 and a VIF value of 1.647. All independent variables have tolerance values above 0.10 and VIF values below 10. Therefore, the regression model does not exhibit multicollinearity, and the independent variables satisfy the multicollinearity assumption.

Table 5. Autocorrelation Test

Model	n	dU	Durbin Watson	4 – dU	Description
1	108	1.84	1.92	2.15	No autocorrelation

Source: Processed data (2026)

Based on the results presented in Table 5, the Durbin–Watson value is 1.92. The number of observations (n) is 108, with a dU value of 1.84 and a 4 − dU value of 2.15. The Durbin–Watson value falls between dU and 4 − dU (1.84 < 1.92 < 2.15). Therefore, based on the criteria applied in this study, the regression model does not exhibit autocorrelation and can proceed to further analysis.

Table 6. Heteroscedasticity Test

Model	Sig.	Description
(Constant)		-
DT	0.385	No heteroscedasticity
GI	0.214	No heteroscedasticity
EP	0.474	No heteroscedasticity

Source: Processed data (2026)

Based on the test results presented in Table 6, digital transformation has a significance value of 0.385, green innovation has a significance value of 0.214, and environmental performance has a significance value of 0.474. All independent variables have significance values greater than 0.05. Therefore, there is no evidence of heteroscedasticity in the regression model. Accordingly, the regression model satisfies the homoscedasticity assumption and is suitable for further analysis.

Table 7. F Test

Model	F	Sig.
Regression	9.263	0.000

Source: Processed data (2026)

Table 7 shows that the calculated F-value is 9.263, with a significance level of 0.000, which is lower than the 0.05 threshold. This indicates that the regression model used in this study is statistically significant and suitable for analysis.

Table 8. Coefficient of Determination Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.487	0.237	0.215	0.049

Source: Processed data (2026)

Based on Table 8, the adjusted R-squared value is 0.215. This indicates that 21.5% of the variation in tax aggressiveness can be explained by digital transformation, green innovation, and environmental performance in this study. The remaining 78.5% is explained by other variables outside the research model that are not examined in this study.

Table 9. T-test Result

Model	B	t	Sig.	Conclusion
(Constant)	0.327	4.246	0.000	
DT	-0.268	-2.977	0.004	Significant
GI	-0.076	-2.436	0.017	Significant
EP	-0.183	-1.681	0.096	No Significant

Source: Processed data (2026)

Based on Table 9, the t-test results show that digital transformation has a regression coefficient of −0.268, a t-value of −2.977, and a significance level of 0.004. Since the significance value is below 0.05, digital transformation has a negative and significant effect on tax aggressiveness. Therefore, the first hypothesis (H1), which states that digital transformation affects tax aggressiveness, is supported. Green innovation has a regression coefficient of −0.076, a t-value of −2.436, and a significance level of 0.017. Since the significance value is below 0.05, green innovation has a negative and significant effect

on tax aggressiveness. Therefore, the second hypothesis (H2), which states that green innovation affects tax aggressiveness, is supported. Environmental performance has a regression coefficient of −0.183, a t-value of −1.681, and a significance level of 0.096. Since the significance value is above 0.05, environmental performance does not have a statistically significant effect on tax aggressiveness. Therefore, the third hypothesis (H3), which states that environmental performance affects tax aggressiveness, is not supported.

Discussion

The Effect of Digital Transformation on Corporate Tax Aggressiveness

The findings indicate that digital transformation has a negative and statistically significant relationship with corporate tax aggressiveness, supporting H1. This relationship may be explained by the role of digital technologies in improving information quality, transaction traceability, and the effectiveness of internal control systems. Through integrated and reliable information processes, companies can monitor financial activities more effectively, identify reporting inconsistencies, and improve the accuracy of tax-related information.

From a Stakeholder Theory perspective, companies are responsible for considering the interests of various stakeholders, including the government, investors, employees, customers, and society (Donaldson & Preston, 1995; Freeman, 1984). Digital transformation can support these responsibilities by improving information transparency, data integration, and the reliability of corporate reporting. In taxation, integrated information systems can help companies document transactions, trace operational activities, and align financial information with tax obligations. Improved information quality may reduce reporting inconsistencies and support more accountable tax decisions.

Digital transformation may also influence tax behavior by strengthening internal controls and transaction traceability. Digitalized business processes enable financial and operational information to be collected systematically, making recording errors and inconsistencies easier to identify. Digital documentation can also facilitate internal audits and improve companies' readiness to provide information to regulators. Nevertheless, digital transformation does not automatically ensure tax compliance. Its effects depend on how technology is used, the quality of internal controls, and corporate policies for managing tax obligations.

Regarding the sample characteristics, this study covers 108 firm-year observations from highly polluting companies listed on the Indonesia Stock Exchange (IDX) during 2023–2025. Digital transformation has a mean of 0.468 and a standard deviation of 0.252, indicating variation in transformation levels across the sample. The companies therefore do not exhibit uniform levels of digital transformation. This variation provides a basis for examining the relationship between digital transformation and corporate tax behavior. However, the standard deviation describes data dispersion and does not, by itself, explain the statistical significance of the regression coefficient.

The sample characteristics are also important when interpreting the findings. Highly polluting companies may face substantial environmental accountability demands because their operations can affect the environment and surrounding communities. They may also be subject to scrutiny from regulators, investors, and society regarding environmental management and business sustainability. Within Stakeholder Theory, these demands increase the importance of transparent and consistent corporate reporting. Digital transformation may support these needs through more integrated information management. However, this study does not directly establish that highly polluting companies face greater scrutiny than companies in other industries, as no comparison group was included in the analysis.

These findings are consistent with Xie and Huang (2023), who found that digital transformation was associated with lower corporate tax avoidance and highlighted internal

control quality as a relevant mechanism. Zhang and She (2024) also reported an association between digital transformation and reduced tax avoidance. Meanwhile, Chen et al. (2024) examined the relationship between digital transformation and tax avoidance, emphasizing organizational efficiency and external attention. Together, these studies support the argument that digital transformation may be associated with corporate tax behavior through improvements in information processes and monitoring. Nevertheless, their findings should be compared cautiously because their corporate contexts and empirical designs differ from those of the present study.

In Indonesia, Damayanti et al. (2025) examined digital transformation and tax avoidance among companies listed on the IDX. Rachmalia and Firmansyah (2025) also investigated this relationship while considering ESG disclosure as a moderating variable. These studies provide a basis for comparing digital transformation and tax behavior in Indonesia. Differences in sample characteristics, observation periods, digital transformation measures, and tax avoidance proxies may produce different findings. Therefore, the present results should be interpreted within the specific context of highly polluting companies during 2023–2025 rather than generalized directly to all Indonesian companies.

Other studies provide additional contextual evidence. Zhou et al. (2022) examined digital transformation in relation to tax stickiness, considering tax avoidance as one of the mechanisms analyzed. Hidayatulloh et al. (2024) investigated digital transformation, media attention, and tax avoidance among Indonesian multinational companies. Meanwhile, Risa et al. (2026) examined digital transformation as a moderating variable in the relationship between environmental disclosure, innovation culture, and tax avoidance. These studies broaden the understanding of the links between digitalization, corporate tax behavior, external monitoring, and environmental issues. However, because some examine different dependent variables or relationship structures, they are better regarded as supporting literature than as direct evidence equivalent to the hypothesis tested in this study.

Indonesia's regulatory environment also provides relevant context. The implementation of Coretax DJP began on January 1, 2025, as part of the modernization of tax administration. This development reflects the increasing use of digital systems in tax administration and services. Because the observation period covers 2023–2025, Coretax is relevant to understanding changes in the tax administration environment during the study period. However, this study does not examine Coretax as a separate variable and therefore cannot conclude that its implementation directly caused changes in corporate tax aggressiveness.

Overall, this study extends the discussion of digital transformation and corporate tax behavior by examining highly polluting companies listed on the IDX during 2023–2025. The findings indicate a negative and statistically significant relationship between digital transformation and the dependent variable. If the dependent variable is operationalized so that higher values represent greater tax aggressiveness, the results support the argument that digital transformation is associated with lower tax aggressiveness. Within Stakeholder Theory, this relationship may be explained by the importance of transparency, information traceability, and corporate accountability to stakeholders.

The Effect of Green Innovation on Corporate Tax Aggressiveness

The findings indicate that green innovation has a negative and statistically significant relationship with the dependent variable, supporting H2. This suggests that green innovation is significantly associated with corporate tax behavior among highly polluting firms. The negative coefficient indicates an inverse relationship between green innovation and the tax aggressiveness measure used in this study. However, whether this relationship reflects a reduction in corporate tax aggressiveness must be interpreted in accordance with the operational definition and measurement direction of the dependent

variable. Since H2 proposes the existence of an effect without specifying its direction, the empirical findings provide support for the hypothesis.

From a Stakeholder Theory perspective, green innovation represents a corporate response to stakeholder demands that business operations should consider not only economic profits but also environmental impacts (Donaldson & Preston, 1995; Freeman, 1984). Green innovation may include developing more environmentally friendly products, adopting production processes that use resources more efficiently, and implementing technologies that reduce waste and pollution. For highly polluting companies, such innovation is particularly relevant because their operations may have environmental impacts that concern regulators, investors, and society. Green innovation may therefore reflect a company's commitment to meeting stakeholder expectations and maintaining business sustainability.

Nevertheless, the relationship between green innovation and tax aggressiveness does not necessarily follow a consistent direction. On the one hand, green innovation may encourage companies to adopt more responsible business practices, emphasize transparency, and consider reputational risks in their decision-making. These commitments may be associated with efforts to maintain stakeholder trust, including that of the government as a party concerned with tax compliance. On the other hand, green innovation may require substantial investment in research and development, technological upgrades, and production process adjustments. These financing needs may influence corporate economic considerations and tax decisions. Accordingly, the relationship between green innovation and tax aggressiveness should be understood in light of corporate characteristics, investment needs, governance, and tax management strategies.

Regarding the sample characteristics, green innovation has a minimum value of 0, a maximum value of 1, a mean of 0.379, and a standard deviation of 0.298. If the variable is measured using a binary indicator, the mean of 0.379 indicates that 37.9% of the observations have the green innovation indicator, while the remaining 62.1% do not. This distribution indicates variation in green innovation adoption across firm-year observations. However, these descriptive statistics only describe the data and do not, by themselves, explain the direction or statistical significance of the relationship between green innovation and tax aggressiveness. Conclusions regarding this relationship are based on the regression results.

The characteristics of the highly polluting companies in the sample are also relevant to interpreting the findings. Companies in industries with substantial environmental impacts may need to invest in improving energy efficiency, reducing emissions, improving waste management, or developing more environmentally friendly production processes. Such investments may form part of corporate sustainability strategies, but they may also create financing needs and affect cash flows. Under these circumstances, green innovation and tax decisions may be related through considerations of costs, investment, risk, and business sustainability. The findings should therefore be interpreted within the context of highly polluting companies listed on the Indonesia Stock Exchange (IDX) during 2023–2025 and should not be generalized directly to companies in other sectors with different operational characteristics.

Previous research suggests that the relationship between environmental factors and corporate tax behavior is complex. Souguir et al. (2024) in their study of French companies, found a positive relationship between environmental performance and tax avoidance. This finding suggests that strong environmental performance does not necessarily coincide with lower tax avoidance. However, environmental performance is a distinct construct from green innovation. Therefore, this study provides a comparative context for understanding the relationship between environmental factors and tax behavior rather than direct evidence of the effect of green innovation on tax aggressiveness.

Another perspective is provided by Abdelwahed et al. (2026), who examined eco-innovation and tax avoidance and reported a negative and significant relationship between environmental innovation and tax avoidance based on firm-year observations from 48 countries. Their findings suggest that environmental innovation may be associated with corporate tax behavior, although the results should be interpreted in light of institutional contexts, corporate characteristics, and variable measurements. These contextual differences should also be considered when comparing their findings with the present study, which focuses on highly polluting companies in Indonesia.

Research on environmental information disclosure provides additional context, although environmental disclosure differs from green innovation. Gu and Wang (2023) examined the relationship between environmental information disclosure and tax avoidance while also considering green innovation and capital investment as related factors. Findings concerning environmental disclosure cannot be directly equated with the effect of green innovation because disclosure concerns information communicated by companies, whereas green innovation involves changes to products or processes that take environmental impacts into account.

In Indonesia, Sari and Tjen (2016) found that corporate social responsibility disclosure was negatively associated with tax aggressiveness among non-financial companies listed on the IDX. Their study provides relevant context for understanding the relationship between corporate responsibility toward stakeholders and tax behavior. However, corporate social responsibility disclosure and green innovation are distinct constructs. Therefore, Sari and Tjen (2016) support the broader argument concerning corporate responsibility rather than provide direct evidence of the effect of green innovation on tax aggressiveness.

Indonesia's regulatory environment also provides context for companies pursuing green innovation. Environmental protection and management policies encourage companies to consider the environmental impacts of their operations. In addition, tax regulations may provide specific tax treatments or incentives for research, development, and innovation activities when companies meet the applicable requirements. Nevertheless, the use of legitimate tax incentives should not automatically be classified as tax aggressiveness. Since this study does not specifically examine the use of tax incentives or the effects of environmental regulations, these factors should be treated as institutional context rather than mechanisms established by the regression results.

Overall, the findings indicate a negative and statistically significant relationship between green innovation and the dependent variable used in the model. These results support H2, which states that green innovation affects tax aggressiveness, because the hypothesis does not specify the direction of the effect. From a Stakeholder Theory perspective, the findings indicate an association between green innovation and corporate tax behavior that warrants further examination in the context of corporate responsibility toward stakeholders.

The Effect of Environmental Performance on Corporate Tax Aggressiveness

The findings indicate that environmental performance does not have a statistically significant relationship with corporate tax aggressiveness. Therefore, H3 is not supported. Although the estimated coefficient indicates a negative relationship between environmental performance and the dependent variable, the absence of statistical significance suggests that there is insufficient empirical evidence to establish a significant association between the two variables. This finding indicates that improvements in corporate environmental performance are not necessarily associated with changes in corporate tax aggressiveness among the highly polluting firms examined in this study.

From a Stakeholder Theory perspective, companies need to consider the interests of various stakeholders, including the government, investors, and communities affected by their

operations (Donaldson & Preston, 1995; Freeman, 1984). Environmental performance represents one form of corporate accountability in managing operational impacts and meeting sustainability expectations. However, environmental responsibility does not necessarily correspond to corporate tax behavior. Sari and Tjen (2016) examined corporate social responsibility disclosure, environmental performance, and tax aggressiveness among non-financial companies in Indonesia. Their study provides relevant context for understanding the relationship between environmental issues and taxation, although corporate social responsibility disclosure must be distinguished from environmental performance as a separate construct.

The statistically insignificant effect of environmental performance may indicate that improvements in corporate environmental outcomes are not necessarily accompanied by consistent changes in tax behavior. Companies may invest in pollution reduction, energy efficiency, or improved waste management while their tax decisions continue to be influenced by other factors. Laguir et al. (2015) showed that the relationship between corporate social responsibility and tax aggressiveness can vary depending on the CSR dimension examined. This finding suggests that different forms of environmental and social responsibility should not automatically be assumed to have the same relationship with corporate tax behavior. However, because their study examined CSR dimensions, it serves as supporting context rather than direct evidence of the effect of environmental performance in the present study.

The descriptive statistics show that environmental performance has a mean of 2.892 and a standard deviation of 0.311. The mean represents the level of environmental performance based on the measurement scale used in this study, while the standard deviation indicates the dispersion of values across observations. These statistics describe variation in environmental performance within the sample but do not directly explain the significance of the regression results. In this study, the relationship between environmental performance and corporate tax aggressiveness remains statistically insignificant after accounting for the other variables in the model. Therefore, the results are more appropriately interpreted as insufficient empirical evidence of a direct effect of environmental performance on corporate tax aggressiveness.

The characteristics of the sample, consisting of highly polluting companies listed on the Indonesia Stock Exchange (IDX) during 2023–2025, should also be considered. Companies in these industries face environmental management requirements that may vary according to industry type, production technology, and operational scale. Gunadi et al. (2025) examined the relationship between ESG performance and tax aggressiveness among companies listed in Indonesia, while Jiang et al. (2024) investigated ESG performance and tax avoidance among companies in China. These studies provide comparative context for understanding the relationship between sustainability and corporate tax behavior. However, ESG performance encompasses environmental, social, and governance dimensions and is therefore not identical to the environmental performance measure used in this study. Differences in constructs and research contexts should be considered when comparing empirical findings.

Indonesia's regulatory environment also highlights the importance of environmental performance for highly polluting companies. The Environmental Performance Rating Assessment Program (PROPER) is a government instrument for evaluating corporate environmental management, including compliance with environmental regulations. However, PROPER does not directly measure tax compliance. Accordingly, strong environmental performance does not automatically indicate either lower or higher corporate tax aggressiveness. From a Stakeholder Theory perspective, environmental accountability and tax compliance are both relevant corporate responsibilities, but they remain distinct dimensions of accountability.

Overall, the findings indicate that environmental performance does not have a statistically significant effect on corporate tax aggressiveness among highly polluting companies listed on the IDX during 2023–2025. This result is consistent with the understanding that the relationship between environmental factors and corporate tax behavior is not necessarily uniform and may depend on the constructs examined and the characteristics of the sample (Laguir et al., 2015; Sari & Tjen, 2016). Within the Stakeholder Theory framework, environmental performance reflects corporate responsibility toward stakeholders, but this responsibility is not necessarily reflected in tax decisions. Therefore, H3 is not supported by the empirical results of this study.

5. CONCLUSIONS AND RECOMMENDATIONS

This study finds that digital transformation and green innovation have negative and statistically significant effects on corporate tax aggressiveness, whereas environmental performance does not have a statistically significant effect. These findings indicate that the relationships of digital capabilities, green innovation, and environmental performance with corporate tax behavior are not uniform. From a Stakeholder Theory perspective, digital transformation and green innovation may support corporate transparency and accountability, while strong environmental performance does not automatically indicate lower tax aggressiveness.

Companies are encouraged to strengthen digital transformation, develop substantive green innovations, and improve transparency in environmental management and tax compliance. Regulators can promote stronger tax and environmental reporting and monitoring systems. Future research should extend the observation period and broaden the scope of industries examined, while considering other factors, such as corporate governance and financial characteristics, to develop a more comprehensive understanding of corporate tax aggressiveness.

6. REFERENCES

Abdelwahed, S., Ladhari, H., & Slimane, M. (2026). When boards go green: eco-innovation and corporate tax avoidance. *Accounting Research Journal*, 1–24. https://doi.org/10.1108/ARJ-12-2025-0537

Abu-Nassar, M., Al-Younes, R. H., & Zaidan, H. (2026). The effect of corporate social responsibility on tax avoidance: the moderating role of political connections. *Journal of Business and Socio-Economic Development*, *6*(4), 359–377. https://doi.org/10.1108/JBSED-07-2025-0290

Albertini, E. (2016). Environmental Performance. In *The SAGE Encyclopedia of Corporate Reputation* (1st ed., pp. 275–281). SAGE Publications. https://doi.org/10.4135/9781483376493

Chen, M., Zhao, K., & Jin, W. (2024). Corporate digital transformation and tax avoidance: Evidence from China. *Pacific-Basin Finance Journal*, *85*, 412–432. https://doi.org/10.1016/j.techfore.2022.122028

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*, 331–339. https://doi.org/10.1007/s10551-006-9025-5

Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society*, *33*(4), 303–327. https://doi.org/10.1016/j.aos.2007.05.003

Damayanti, F., Mulyani, S. D., & Aryati, T. (2025). The Impact of Digital Transformation and Market Power on Corporate Tax Avoidance : The Moderating Role of Internal Control in Indonesian Listed Firms. *Journal of Information Systems Engineering and Management*, *10*(4), 2382–2396.

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications.

Academy of Management Review, *20*(1), 65–91.

Dyreng, S. D., Hanlon, M., Maydew, E. L., & Thornock, J. R. (2017). Changes in corporate effective tax rates over the past 25 years. *Journal of Financial Economics*, *124*(3), 441–463. https://doi.org/10.1016/j.jfineco.2017.04.001

Frank, M. M., Lynch, L. J., & Rego, S. O. (2009). Tax Reporting Aggressiveness and its Relation to Aggressive Financial Reporting. *Accounting Review*, *84*(2). https://doi.org/10.2139/ssrn.647604

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.

Ghozali, I. (2021). *Aplikasi analisis multivariate dengan program IBM SPSS 26 (10th ed.)*. Badan Penerbit Universitas Diponegoro.

Gu, Y., & Wang, S. (2023). Corporate environmental information disclosure and tax avoidance: Evidence from China. *Heliyon*, *9*(11), e21492. https://doi.org/10.1016/j.heliyon.2023.e21492

Gunadi, M. T., Ardiana, P. A., Badera, I. D. N., & Noviari, N. (2025). ESG Performance and Corporate Tax Aggressiveness: Evidence from Indonesian Listed Firms. *Jurnal Akuntansi Dan Bisnis*, *21*(2), 293–304.

Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, *50*(3), 127–178. https://doi.org/10.1016/j.jacceco.2010.09.002

Hart, S. L. (1995). A Natural-Resource-Based View of the Firm. *The Academy of Management Review*, *20*(4), 986–1014. https://doi.org/10.2307/258963

Hidayatulloh, T., Tanzil, N. D., & Priyono, A. P. (2024). Digital Transformation, Media Attention, and Tax Avoidance: A Study of Indonesian Multinationals. *Jurnal Akuntansi, Keuangan, Dan Manajemen*, *6*(1 SE-Articles), 231–243. https://doi.org/10.35912/jakman.v6i1.3735

Jiang, H., Hu, W., & Jiang, P. (2024). Does ESG performance affect corporate tax avoidance? Evidence from China. *Finance Research Letters*, *61*, 105056. https://doi.org/10.1016/j.frl.2024.105056

Laguir, I., Staglianò, R., & Elbaz, J. (2015). Does corporate social responsibility affect corporate tax aggressiveness? *Journal of Cleaner Production*, *107*, 662–675.

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts. *The Academy of Management Review*, *22*(4), 853–886. https://doi.org/10.2307/259247

Nguyen, Huy Hoang, Nguyen, Quang Khai, & Duong, Thi Nhan. (2026). Corporate Social Responsibility Disclosure and Tax Avoidance: The Moderating Role of Board Structure in an Emerging Economy. *Sage Open*, *16*(3), 21582440261489870. https://doi.org/10.1177/21582440261489871

Porter, M. E., & Linde, C. van der. (1995). Toward a New Conception of the Environment-Competitiveness Relationship. *The Journal of Economic Perspectives*, *9*(4), 97–118.

Rachmalia, I. P., & Firmansyah, A. (2025). Pengaruh Transformasi Digital terhadap Penghindaran Pajak dan Peran ESG Disclosure sebagai Variabel Moderasi. *Studi Akuntansi Dan Keuangan Indonesia*, *8*(2), 193–204. https://journal.prasetiyamulya.ac.id/journal/index.php/saki/article/view/1633/805

Richardson, G., Taylor, G., & Lanis, R. (2016). Women on the board of directors and corporate tax aggressiveness in Australia. *Accounting Research Journal*, *29*(3), 313–331.

Risa, N., Mayangsari, S., & Mahfar, R. (2026). Digital Transformation as a Moderator: Examining Environmental Disclosure, Innovation Culture, and Tax Avoidance in Indonesia. *Jurnal Riset Akuntansi Kontempore*, *18*(1), 175–188. https://doi.org/10.23969/jrak.v18i1.42862

Sari, D., & Tjen, C. (2016). Corporate Social Responsibility Disclosure, Environmental Performance, and Tax Aggressiveness. *International Research Journal of*

Business Studies, *9*, 93–104. https://doi.org/10.21632/irjbs.9.2.93-104

Souguir, Z., Lassoued, N., Khanchel, I., & Bouzgarrou, H. (2024). Environmental performance and corporate tax avoidance: Greenwashing policy or eco-responsibility? The moderating role of ownership structure. *Journal of Cleaner Production*, *434*, 140152. https://doi.org/10.1016/j.jclepro.2023.140152

Struyfs, Kristof, & Thijssens, Thomas. (2026). Transforming Our World, or Their Tax Rates? The Relation Between Corporate SDG Engagement and Tax Avoidance. *Organization & Environment*, 10860266261449100. https://doi.org/10.1177/10860266261449100

Tyan, T. Y., Wijaya, A. L., & Amah, N. (2024). Pengaruh Capital Intensity, Green Accounting dan Green Innovation Terhadap Agresivitas Pajak pada Perusahaan Manufaktur yang Terdaftar di BEI Periode 2018-2022. *Seminar Inovasi Manajemen Bisnis Dan Akuntansi (SIMBA) 6*, *September*.

Xie, K., & Huang, W. (2023). The Impact of Digital Transformation on Corporate Tax Avoidance: Evidence from China. *Discrete Dynamics in Nature and Society*, *2023*(1), 8597326. https://doi.org/10.1155/2023/8597326

Zhang, Q., & She, J. (2024). Digital transformation and corporate tax avoidance: An analysis based on multiple perspectives and mechanisms. *PLOS ONE*, *19*(9), e0310241. https://doi.org/10.1371/journal.pone.0310241

Zhou, S., Zhou, P., & Ji, H. (2022). Can digital transformation alleviate corporate tax stickiness: The mediation effect of tax avoidance. *Technological Forecasting and Social Change*, *184*, 122028. https://doi.org/https://doi.org/10.1016/j.techfore.2022.122028