

# DO INSTITUTIONAL PRESSURES IMPACT VOLUNTARY ENVIRONMENT INFORMATION DISCLOSURE?



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## ABSTRACT

Over the past decades, China's rapid economic growth has mainly come at the expense of excessive energy consumption, resulting in significant carbon dioxide emissions and other environmental challenges. China has pledged to peak its carbon emissions by 2030 to address the rising emissions, aiming for near-zero carbon neutrality by 2060. In this context, the legitimacy of institutions is essential, as it sheds light on the various effects of institutional pressures on organizational strategies and behaviors. Companies are increasingly improving their voluntary disclosure of environmental information to maintain legitimacy. However, many companies still need to determine whether the public and stakeholders value their environmental and social performance. Managers often believe that the costs of voluntary disclosure outweigh the benefits. This study analyzes how institutional pressures—coercive, normative, and mimetic pressure—affect voluntary environmental information disclosure in China. We gathered survey responses from managers at 93 listed manufacturing companies based in China. A cross-sectional quantitative approach was utilized, with data collection occurring between March and May 2024. We employed Partial Least Squares Structural Equation Modeling (PLS-SEM) to investigate the impact of institutional pressures on the voluntary disclosure of environmental information. The findings suggest that coercive and normative pressures significantly enhance voluntary environmental information disclosure, whereas mimetic pressure shows no significant effect. These findings indicate that voluntary environmental information disclosure in China remains underdeveloped and lacks a clear industry framework. As a result, companies are increasingly prioritizing compliance with regulatory standards and actively engaging with stakeholders rather than simply imitating the behaviors of their peers.

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## INTRODUCTION

As the frequency of global natural disasters increases, the conflict between environmental protection and economic growth has become more pronounced. Globally, approximately 34.81 billion metric tons of carbon dioxide are emitted annually, with the United States, China, the European Union (28 countries), and India accounting for 15%, 27%, 9.8%, and 6.8% of global emissions, respectively (Du & Wang, 2023). This reality underscores the growing importance of environmental sustainability (Karwowski & Raulinajtys-Grzybek, 2021). The international community has responded by acting. For example, the Glasgow Climate Pact set the goal of limiting global warming to below 1.5°C and committed to achieving global net-zero carbon emissions by 2050. Against this backdrop, the Rio+20 Summit 2012 established 17 Sustainable Development Goals (SDGs), approved by all signatory nations, including China, in 2015. These goals aim to balance economic development, social inclusion, and environmental sustainability by 2030 (Sun et al., 2018). In response to these global objectives, China has implemented a series of national sustainability policies, targeting a reduction in carbon intensity by 60-65% and peaking emissions by 2030. Furthermore, in 2020, China pledged to achieve carbon neutrality by 2060 and reduce carbon intensity by more than 65% by 2030 (Liu et al., 2022).

Driven by government climate change initiatives, most countries' enterprises are gradually taking actions to mitigate or adapt to climate change. Information disclosure offers numerous advantages, as it enhances transparency between shareholders (and other stakeholders) and companies (Sra et al., 2022), allowing stakeholders to monitor management decisions and reduce managerial discretion (Di Vaio et al., 2022). Voluntary environmental information

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disclosure has become a common demand among investors, policymakers, customers, and the public. Companies can disclose environmental information to evaluate their greenhouse gas emission intensity during production, assess regulatory and competitive risks, and identify strategies for addressing climate change. However, why do certain institutional behaviors, such as voluntary environmental information disclosure, become widespread within organizations? Weberian scholars argue that rationality drives institutional behaviors to achieve greater efficiency and effectiveness. In contrast, new institutionalist scholars suggest that the prevalence of institutional practices is more attributable to their legitimacy and appropriateness in a specific context (Lodge & Wegrich, 2005). Even in unfavorable environments, voluntary environmental information disclosure may prevail due to institutional pressures, leading to a shared understanding and recognition of institutional behaviors (DiMaggio & Powell, 1983).

This study explores the impact of institutional pressures (coercive, normative, and mimetic pressures) on voluntary environmental information disclosure among publicly listed companies in China. In tackling climate change and reaching sustainable development objectives, the significance of corporate environmental transparency has grown considerably. Although voluntary environmental information disclosure can enhance corporate legitimacy and meet stakeholder expectations, the extent to which different institutional pressures influence such disclosure remains to be determined (Kouloukoui et al., 2021). Therefore, this study employs a cross-sectional quantitative approach, using data from 93 listed manufacturing companies in China, to analyze how institutional pressures affect corporate environmental disclosure practices. The results indicate that coercive and normative pressures significantly promote voluntary environmental information disclosure, while mimetic pressure shows no significant effect. These findings highlight the current state of voluntary environmental information disclosure in China and provide a basis for policymakers and corporate managers to enhance environmental transparency further.

The structure of this paper is as follows: Section 2 discusses the literature review and hypothesis development; Section 3 presents the methods; Section 4 discusses the research results; and the final section presents the discussion and conclusions.

## LITERATURE REVIEW

### **Coercive Pressure and Voluntary Environment Information Disclosure of the Firm**

According to institutional theory, coercive pressure arises from regulatory frameworks and social norms (DiMaggio & Powell, 1983). In an international study on CSR reporting, García-Sánchez et al. (2016) indicated that coercive pressure is a major driving force behind corporate transparency. Firms often adjust their policies and practices to match those of other companies encountering comparable environmental circumstances, leading to what is referred to as "institutional isomorphism" (DiMaggio & Powell, 1983). This procedure is usually motivated by the necessity to satisfy stakeholder expectations and achieve enhanced legitimacy. Legitimacy reflects society's collective acknowledgment of a company and is crucial in ensuring its stability and survival (Latif et al., 2020). Voluntary environmental information disclosure is often seen as a legitimization tool for organizations, aiding in assessing and managing non-financial performance, identifying sustainability risks, and fostering stakeholder trust (Posadas et al., 2023; Edeh et al., 2023). Therefore, studying the relationship between institutional pressure and voluntary environmental information disclosure is essential. Zampone, Sannino, and García-Sánchez (2023) introduced a theoretical framework to investigate the connection between institutional pressure and the disclosure of corporate social responsibility information, highlighting that responding to institutional pressure through such disclosures can be viewed as a valid method of demonstrating commitments to stakeholders and shaping a comprehensive image of corporate social responsibility (Cubilla-Montilla et al., 2020; García-Sánchez, 2020).

While most past research has focused on how corporate demographic factors (such as size and age) influence sustainability information disclosure, there has been less emphasis on external institutional factors such as stakeholder pressure (Dissanayake et al., 2019; Kumar et al., 2021). However, external institutional pressures, including those from stakeholders, are key factors influencing sustainability information disclosure (Tahajuddin et al., 2021). Therefore, it is crucial to study how external factors, such as institutional pressure, affect voluntary environmental information disclosure. Nevertheless, previous research findings have needed to be more consistent, with mixed results regarding the relationship between regulatory pressure and voluntary environmental disclosure. Some research emphasizes the importance of regulation in improving environmental disclosure (Deegan, 2002; Latif et al., 2020), suggesting that coercive pressure compels companies to conform their reporting practices to official requirements. However, others argue that more than regulation is needed to promote higher levels of environmental disclosure (Bebbington et al., 2012; Luque-Vilchez & Larrinaga, 2016; La Torre et al., 2018). It could even have negative effects, particularly when regulations clash with informal norms within the institutional environment or are viewed as unrealistic and illegitimate by influential stakeholders (Bebbington et al., 2012). This is partly due to varying regulatory requirements in different institutional contexts and methodological limitations. The above discussion indicates that understanding these complexities and inconsistencies is essential for improving voluntary environmental information disclosure. This study aims to fill these gaps by examining the relationship between coercive pressure and voluntary environmental information disclosure among listed companies in China. China's unique regulatory environment and specific measures provide a relevant and significant context for such research.

### **Normative Pressure and Voluntary Environment Information Disclosure of the Firm**

Gray (1988) made a significant early contribution by emphasizing the opportunity to evaluate cultural elements to enhance understanding of the factors influencing social systems. Gray's framework has been extensively applied in accounting research to explore the relationship between cultural dimensions and various domains, including management accounting practices, auditing, and strategic management (Hope et al., 2008). This approach has significantly enhanced our

understanding of how cultural factors shape accounting and management practices, providing a nuanced perspective on the interplay between cultural dimensions and organizational behavior. Furthermore, scholars have initially utilized methodologies to evaluate financial reporting practices and investigate ethical behaviors. Numerous studies have explored the relationship between cultural influences and corporate social responsibility reporting, thereby advancing our understanding of the cultural determinants of CSR practices (Adams, 2017; García-Sánchez et al., 2013; Sannino et al., 2020). Normative isomorphism, as articulated by institutional theory, involves adherence to informal norms, values, and cultural expectations, which are often propagated through mechanisms such as professional development, formal education, and social interactions (Gallego-Álvarez & Pucheta-Martínez, 2020). This theoretical perspective underscores the role of these unwritten elements in shaping organizational behavior. Cultural systems predominantly establish informal norms through professional development, formal education, and socialization—called normative pressures. These informal norms often profoundly influence companies' voluntary environmental information disclosure practices compared to formal regulatory mandates. Being socially accepted norms facilitates organizations in affirming their legitimacy within their operational context (Halkos & Skouloudis, 2017; Nicolò et al., 2024). Consistent with this perspective, several studies contend that normative pressures significantly contribute to variations in corporate non-financial reporting practices across different countries, irrespective of mandatory disclosure requirements (La Torre et al., 2018; Pizzi et al., 2023).

Despite notable recent advancements, many countries still need comprehensive and effective sustainable disclosure practices, raising significant concerns among governments and stakeholders (Masum et al., 2020; Masoud & Vij, 2021; Rashid et al., 2020). The empirical findings on the relationship between normative pressure and voluntary environmental information disclosure have shown inconsistencies across different studies, indicating a need for further investigation into these dynamics to achieve a more precise understanding. Previous studies on the reporting of Sustainable Development Goals (SDGs) reveal that many corporations, often unintentionally, demonstrate strong alignment with the SDG reporting standards established by the Global Reporting Initiative (Krasodomska et al., 2021; Pizzi et al., 2021; Tsalis et al., 2020). This alignment implies that normative pressures positively influence corporate sustainability reporting practices (Posadas et al., 2023). The study by Lakshan et al. (2022) examines the challenges associated with normative isomorphic pressures in evaluating the significance of non-financial information disclosure. From the perspective of institutional isomorphism, this research underscores the complexities inherent in determining the appropriate emphasis on non-financial reporting. Previous studies provide a variety of perspectives, highlighting the need for in-depth research on the influence of normative pressure on corporate behavior concerning non-financial reporting practices, particularly in the context of voluntary environmental information disclosure. In alignment with prior studies (Yusoh et al., 2024; Ben-Amar & Chelli, 2018; García-Sánchez et al., 2016), this study employs a normative lens within institutional theory to investigate the influence of normative pressures on the transparency of sustainability reporting practices in China. Specifically, it focuses on voluntary environmental information disclosure among listed manufacturing firms. This investigation illustrates how these pressures contribute to improved sustainability practices and achieving Sustainable Development Goals (SDGs) (Pizzi et al., 2022).

### **Mimetic Pressure and Voluntary Environment Information Disclosure of the Firm**

Mimetic isomorphism refers to the tendency of companies to imitate the behavior patterns, strategies, and reporting practices of the most successful firms (DiMaggio & Powell, 1983). The primary triggers for mimetic isomorphism are environmental uncertainty and the visibility of the company, which refers to the extent to which it is subject to public scrutiny (Gallego-Álvarez & Pucheta-Martínez, 2020; Posadas et al., 2023). Therefore, in the absence of regulation, when companies face high levels of uncertainty, and their legitimacy is at risk, they tend to imitate the disclosure strategies of companies recognized as leaders within the same industry, country, or institutional environment to reduce the risk of losing social acceptance and stakeholder support (DiMaggio & Powell, 1983). For example, mimetic pressure may encourage companies writing sustainability reports for the first time to look to exemplary firms, allowing them to imitate how these companies design their sustainability reports, thus leading to homogeneity in content, format, and framework (La Torre et al., 2018).

In emerging economies, sustainable practices still need to be developed, and there is a need for explicit industry models; therefore, companies often prioritize regulatory compliance and stakeholder engagement over mimetic behavior. This trend stems from regulatory and stakeholder pressures' direct and tangible impact on corporate legitimacy. In contrast, mimetic pressure is often indirect and ambiguous (Lee et al., 2024). Furthermore, studies on the relationship between mimetic pressure and sustainable disclosure practices have yet to produce consistent conclusions. For instance, Zampone, García-Sánchez, and Sannino (2023) found that mimetic pressure and CSR performance positively influence CSR information disclosure.

Additionally, the interaction between mimetic pressure and CSR performance has an additional positive impact on CSR disclosure. However, research by Zampone, García-Sánchez, and Sannino (2023) shows that various forms of mimicry and competition negatively affect SDG reporting. Therefore, under China's unique institutional context, further research is necessary to examine the impact of mimetic pressure on voluntary environmental information disclosure.

This study aims to understand the relationship between institutional pressures (coercive, normative, and mimetic pressures) and voluntary environmental information disclosure and to reveal how external institutional pressures influence organizational voluntary environmental disclosure behaviors. This understanding could improve organizational environmental performance at the institutional level and achieve the SDGs. Therefore, the following hypotheses are proposed in this paper:

- H<sub>1</sub>:** *Coercive pressure significantly positively influences the voluntary environment information disclosure of the firm.*
- H<sub>2</sub>:** *Normative pressure significantly positively influences the voluntary environment information disclosure of the firm.*
- H<sub>3</sub>:** *Mimetic pressure significantly positively influences the voluntary environment information disclosure of the firm.*

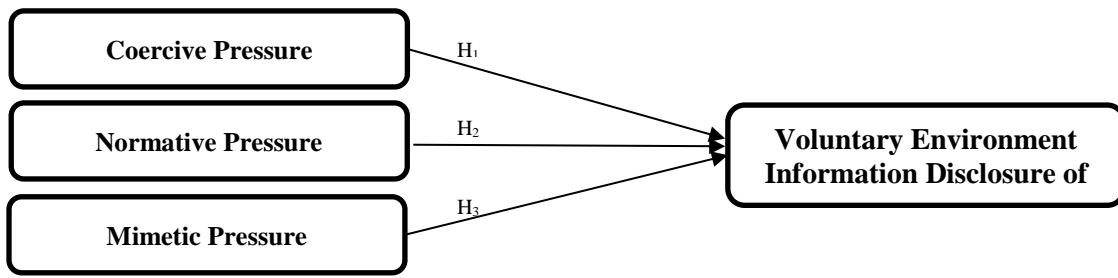


Figure 1. The study model

Figure 1 presents the research model, where H1, H2, and H3 examine the effects of coercive, normative, and mimetic pressures on voluntary environment information disclosure, respectively. The subsequent section details the study's methods.

## MATERIALS AND METHODS

### Data Collection and Sample

The research sample consists of listed manufacturing companies in China. The rationale for selecting Chinese manufacturing firms is threefold. First, China's manufacturing sector is critical in global supply chains and faces increasing environmental regulatory pressure, making its environmental disclosure practices highly relevant. Second, with China's government promoting green development strategies, manufacturing firms must balance economic growth with environmental protection. Finally, listed manufacturing companies in China have relatively high transparency and more comprehensive financial and environmental data, which facilitates data collection and analysis.

Data collection started in early March 2024 and lasted three months, resulting in 93 responses from the selected companies. Despite concerns about information confidentiality leading to a lower response rate, follow-up efforts via phone calls, e-mails, and providing an online questionnaire option helped to increase participation. We conducted a statistical power analysis using G\*Power 3 to ensure our sample size was sufficient. A systematic sampling method was employed to select sample members from the larger population based on a random starting point and fixed intervals. We alphabetically listed all eligible companies and chose every second company until 200 companies were selected for questionnaire distribution. This sampling approach ensured scientific rigor and representativeness, providing a solid foundation for subsequent analysis.

### Descriptive Analysis of Companies

This study examined firm characteristics, including industry category, size, age, and ownership type. The service sector represented 25.8% of firms, with 25% of firms employing 151-200 employees. Notably, 44.10% of firms had been operating in China for over 40 years, indicating substantial market experience. Gender distribution among respondents was balanced (54.8% male, 45.2% female), and most respondents were accountants (30.1%) or held roles such as auditors, CFOs, and environmental managers. Nearly half (49.5%) possessed primary accounting certificates, and 53.8% had bachelor's degrees, highlighting the respondents' qualifications and capability to provide relevant insights.

### Measures

This study examines the relationship between voluntary environmental information disclosure and institutional pressures. In this study, the dependent variable is voluntary environmental disclosure, while the independent variable is institutional pressures, which influence the extent to which firms disclose environmental information beyond legal requirements. The study adopted and modified existing scales to fit the context of Chinese publicly listed companies. Respondents provided their answers using a five-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree). Sample statements evaluated how companies increase environmental compliance indicators, pollution prevention measures, product stewardship, and sustainability indicators in their corporate environmental reports (CER) or annual reports. This method allowed the assessment of voluntary environmental disclosure by focusing on crucial indicators tailored to organizational contexts.

Institutional pressures were categorized into coercive, normative, and mimetic pressures. Coercive pressure measures the extent to which companies comply with regulations set by authorities like the Securities Regulatory Commission in China, using scales adapted from Iliya Nyahas et al. (2017). Normative pressure assesses how well companies conform to professional norms established by industry groups, and it is also measured using modified scales from Iliya Nyahas et al. (2017). Mimetic pressure gauges how companies imitate leading industry peers in their disclosure practices. This comprehensive approach facilitated analyzing how coercive, normative, and mimetic pressures influence voluntary environmental disclosure among Chinese listed firms. Table 1 shows the study measures.

Table 1. Constructs, Measurement Items, and Sources of Measurements

Constructs	Measurement Items	Sources of Measurements
Coercive Pressure	We follow the guidelines set by the China Securities Regulatory Commission.	Iliya Nyahas et al. (2017)
	We follow the guidelines set by China's Shenzhen and Shanghai stock exchanges.	
	We follow the guidelines set by China's State Environmental Protection Administration.	
Normative Pressure	Our staff are encouraged to follow their professions' professional codes of ethics.	



	Our industrial association emphasizes following professionalism standards.
	Our organization considers professional qualifications as part of its recruitment policy.
<b>Mimetic Pressure</b>	We follow industry leaders in managing uncertainties.
	We emulate our industrial peers in dealing with environmental uncertainties within our organizational practices.
	We use our competitors as benchmarks for handling uncertainties.
<b>Voluntary Environment Information Disclosure</b>	The number of environmental compliance indicators in our firm's corporate environmental report (CER) or annual report has significantly increased.
	The number of pollution prevention indicators in our firm's CER or annual report has significantly increased.
	The number of product stewardship indicators in our firm's CER or annual report has significantly increased.
	The number of sustainable development indicators in our firm's CER or annual report has significantly increased.

**Data Analysis**

The statistical tool used for data analysis in this study was PLS-SEM, a type of structural equation modeling known for handling complex path models with multiple variables (Hair et al., 2010). PLS-SEM is ideal for theory building and is particularly effective when sample sizes are small, as in this study's sample of 93 Chinese-listed companies. It also handles non-normal data and complex models well. We employed this approach to evaluate the reliability and validity of the research tool. Structural models facilitated the analysis of the relationships among variables, ensuring a comprehensive investigation of the study's hypotheses.

**Controls for Endogeneity Bias**

Endogeneity bias in research occurs when the researcher overlooks variables that previous studies have demonstrated to correlate strongly with the dependent variable of interest. However, the theoretical model omits these variables (Bartov et al., 2000). To eliminate this bias, we include the industrial category as a control variable since prior research consistently demonstrates its positive influence on voluntary environment information disclosure (Eng & Mak, 2003). By incorporating the industrial category into our analysis, we aim to address potential confounding factors and enhance the robustness of our findings regarding the determinants of voluntary environmental information disclosure among Chinese listed firms.

**RESULTS**

**Measurement Model**

We examine several vital aspects of evaluating the measurement model, including model fit, collinearity, validity, and reliability. The Variance Inflation Factor (VIF) values for all variables were below five, meaning there are no multicollinearity problems. The study confirmed that the measures are reliable. Both Cronbach's alpha and composite reliability showed values above 0.7, indicating strong internal consistency (Bagozzi & Yi, 1988; Hair et al., 2010). We assessed convergent validity by calculating the Average Variance Extracted (AVE) for each latent variable, and all AVE values surpassed the recommended threshold of 0.5, confirming adequate convergent validity (Henseler et al., 2016). Detailed results are presented in Table 2, ensuring that the latent variables demonstrate sufficient shared variance among their indicators, thereby validating their effectiveness in measuring the intended constructs.

Table 2. Measurement Model Summary

items	Outer Loadings	Cronbach's alpha	Composite reliability (CR)	AVE	VIF
<b>Coercive pressure</b>		0.843	0.905	0.761	1.202
CP1	0.867				
CP2	0.856				
CP3	0.895				
<b>Normative Pressure</b>		0.871	0.921	0.795	1.22
NP1	0.908				
NP2	0.875				
NP3	0.892				
<b>Mimetic Pressure</b>		0.825	0.895	0.74	1.133
MP1	0.877				
MP2	0.876				
MP3	0.825				
<b>Voluntary environment information disclosure</b>		0.886	0.921	0.744	
VIED1	0.874				
VIED2	0.843				
VIED3	0.868				
VIED4	0.867				

**Discriminant Validity Assessment**

We assessed discriminant validity using the Fornell and Larcker (1981) criterion, which requires that the square root of the AVE for each latent variable exceeds its correlations with other variables (Wong, 2013). Table 3 confirms that this criterion is satisfied, demonstrating the presence of discriminant validity. This analysis ensures that each latent variable in the study measures a distinct construct from others, thereby supporting the validity of the measurement model.

Table 3. Discriminant Validity

	Coercive pressure	Normative Pressure	Mimetic Pressure	Voluntary Environment Information Disclosure
Coercive pressure	0.873			
Normative Pressure	0.374	0.892		
Mimetic Pressure	0.271	0.296	0.860	
Voluntary Environment Information Disclosure	0.528	0.661	0.322	0.863

**Structural Model**

The quality of the structural model was assessed by evaluating the path coefficients ( $\beta$ ), coefficient of determination ( $R^2$ ), and effect size ( $f^2$ ), following guidelines by Henseler and Sarstedt (2013). According to their recommendations, effect sizes ( $f^2$ ) of 0.17, 0.01, and 0.46 indicate medium, minor, and substantial effects on the endogenous variable. We used these metrics to measure the relationship's strength and significance. This helps us understand how well the predictor variables explain the dependent variable and their impact on it.

**Test of Hypotheses**

This structure model aimed to assess the relationships between various dimensions of institutional pressures and the extent of voluntary environmental information disclosure among the studied firms. The analysis investigated how coercive, normative, and mimetic pressures influence firms' decisions to voluntary information disclosure. Figure 2 indicates decisions that structure the model. Detailed analysis of path coefficients in Table 4 reveals that coercive pressure positively influences voluntary environmental information disclosure ( $\beta = 0.311$ ,  $t = 3.004$ ,  $p < 0.05$ ), supporting hypothesis 1. However, mimetic pressure shows no significant association with voluntary environmental information disclosure ( $\beta = 0.083$ ,  $t = 0.885$ ,  $p > 0.05$ ), thereby failing to support hypothesis 3. On the other hand, normative influences significantly contribute to explaining voluntary disclosure ( $\beta = 0.520$ ,  $t = 5.101$ ,  $p < 0.05$ ), confirming hypothesis 2. A summary of these findings is presented in Table 4, outlining the significant relationships observed between institutional pressures and voluntary environmental information disclosure. These results provide empirical insights into how coercive and normative pressures influence firms' voluntary disclosure practices, highlighting the impact of mimetic pressures in this context. Furthermore, the analysis shows that the industry sector has no significant effect on voluntary environmental information disclosure ( $\beta = 0.002$ ,  $t = 0.036$ ,  $p > 0.05$ ).

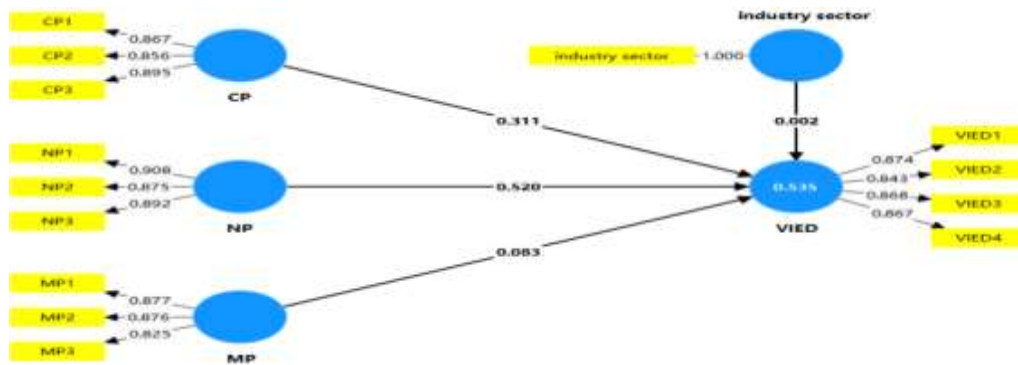


Figure 2. Structural model

Table 4. Path Coefficients

	$\beta$	T -value	Sig.	$f^2$
Coercive Pressure ->Voluntary Environment Information Disclosure	0.311	3.004	0.003	0.171
Normative Pressure ->Voluntary Environment Information Disclosure	0.520	5.101	0.000	0.460
Mimetic Pressure ->Voluntary Environment Information Disclosure	0.083	0.885	0.376	0.013
Industry Sector->Voluntary Environment Information Disclosure	0.002	0.036	0.971	0.000

Noted:  $R^2=0.535$ ; Adjusted  $R^2=0.514$ ;  $p$ -value=0.000

**DISCUSSIONS**

The results of the  $H_1$  analysis showed that coercive pressure positively influences voluntary environmental information disclosure, as expected. External coercive pressure helps to promote disclosure behaviors (Zeng et al., 2012). The sample companies in this study are manufacturing firms that face significant environmental legitimacy pressures due to their operation in environmentally sensitive industries. As a result, these companies tend to enhance voluntary environmental information disclosure, such as environmental compliance and pollution prevention, to achieve environmental goals.

Similarly, the  $H_2$  analysis results indicated that normative pressure positively influences voluntary environmental information disclosure. Normative factors exert a more significant explanatory than coercive pressures, emphasizing adherence to professional ethics and industry standards in shaping disclosure practices. These findings align with the research by Mehedi et al. (2024), which shows that normative pressures, such as corporate values, have a significant positive relationship with environmental information disclosure.

In contrast, the H<sub>3</sub> analysis found no significant relationship between mimetic pressure and voluntary environmental information disclosure, contrary to the research of Wukich et al. (2024). This may be because information disclosure in Government regulations primarily drives actions in China rather than peer imitation. Since coercive and normative pressures play a more prominent role in environmental disclosure, firms may focus more on compliance and industry standards rather than imitating the disclosure practices of their peers.

## CONCLUSIONS

This research aims to pressures—coercive, normative, and mimetic—that affect the voluntary disclosure of environmental information by publicly listed manufacturing firms in China. This seeks to comprehend how these external influences affect environmental sustainability efforts. The results indicate that under coercive and normative pressures, companies significantly increase voluntary environmental information disclosure and environmental regulations and meet social expectations, thereby achieving sustainability goals. This trend reflects the efforts of companies to enhance legitimacy and social acceptance through environmental information disclosure in response to external institutional demands and market competition. Additionally, China's "carbon peak and carbon neutrality" targets, announced in 2020, have increased the demand for corporate environment information disclosure to meet objectives. However, the influence of mimetic pressure is insignificant, suggesting that firms tend to respond more directly to social norms when facing environmental uncertainties. These findings indicate that institutional pressures are vital drivers of environmental information disclosure, particularly in the context of China's capital targets, where the demand for disclosure continues to rise. The results provide insights for policymakers to optimize environmental policies and further enhance corporate environmental transparency and social responsibility.

This study offers several contributions and insights. It is one of the pioneering studies that, based on institutional theory (DiMaggio & Powell, 1983), establishes a research framework incorporating coercive pressure, normative pressure, mimetic pressure, and voluntary environmental information disclosure. Institutional theory expands the factors influencing organizations' voluntary environmental information disclosure, thereby enhancing environmental disclosure. Given the limited research on institutional theory, the current study's findings are valuable, particularly in China, where the "dual carbon" policy places significant emphasis on the environment. The research identifies coercive, normative, and mimetic pressures as components of institutional pressures, although previous studies have primarily overlooked mimetic pressure. Therefore, the research framework in this paper highlights these three critical institutional pressures as part of environmental solutions and contributes to sustainability development.

The findings of this study provide practical implications for managers in developing countries. Institutional pressures significantly enhance organizations' voluntary environmental information and improve the impact of proactively responding to such pressures. Managers should consider adopting voluntary environmental information disclosure practices to maintain environmental protection and make informed investment decisions. Given the critical roles of coercive and normative pressures highlighted in the study, managers should be aware that critical environmental regulations and industry standards positively influence corporate environmental disclosure practices. Making informed decisions on voluntary environmental information disclosure can assist China in achieving its 2030 carbon peak and 2060 carbon neutrality goals. Ultimately, this alignment can support companies in engaging in environmental disclosure practices. The results give auditors insights into how Chinese-listed manufacturing companies perceive and implement voluntary environmental information disclosure. Environmentally sensitive firms should actively participate in these disclosure practices, advancing the theoretical understanding of environmental disclosure and contributing to sustainable development.

The Chinese government should leverage the findings from this empirical analysis to formulate industry-acceptable and effective environmental regulatory policies. The China Stock Exchange should also reassess the practices of voluntary environmental information disclosure in sustainable development reports to ensure that all stakeholders understand and recognize the concept. Since China established ambitious targets in its 2020 "carbon peak and neutrality" goals, businesses must actively contribute to achieving these sustainability objectives. The study's results suggest that companies in developing countries should transform significantly by integrating institutional pressures with voluntary environmental information disclosure to drive the changes needed for economic, social, and environmental sustainability. Enhancing voluntary environmental information disclosure practices can lead to developing a zero-waste society, thereby reducing environmental pollution and emissions.

The study's limitations provide helpful directions for future research. Data collection may have a potential bias since the survey targeted listed manufacturing companies in China. A larger sample size could provide more comprehensive insights into unexplained dimensions specific to the Chinese manufacturing sector. Future research should expand beyond the manufacturing industry to explore how institutional pressures affect voluntary environmental information disclosure in other sectors. This study recommends that future researchers validate and refine the proposed framework. Therefore, future studies should utilize longitudinal data and consider mediating and moderating variables to test the proposed conceptual model. Interviewing non-manufacturing industry environmental experts and senior managers could offer more profound insights. Case studies also help explain the role of institutional pressures and the sustainability of these changes over time.

Despite these limitations, the findings show that coercive and normative pressures are essential to improving voluntary environmental information disclosure within organizations. Overall, the research extends the literature on institutional theory and environmental disclosure in several ways. For example, it examines the relationship between coercive, normative, and mimetic pressures and voluntary environmental information disclosure through quantitative research. It recommends a research framework for Chinese-listed manufacturing companies to gain a more positive advantage. This study mainly advances theoretical development by clarifying the impact of institutional pressures on

organizational sustainability in developing countries.

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