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Research On Factors Affecting The Adoption Of Sustainable Development Reports In Enterprises Build Listed Companies In Vietnam

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Abtracts: *In the context of globalization and international economic integration, Vietnamese construction enterprises (CEs) are increasingly under pressure to adopt sustainability reports (SRs) to affirm their commitment to Environmental, Social, and Governance (ESG) factors, thereby enhancing their reputation and competitiveness in the market. However, the adoption level of SRs by listed CEs in Vietnam is uneven and depends on various factors. This study focuses on exploring and analyzing the factors affecting the adoption of SRs by listed CEs in Vietnam. Based on theoretical synthesis and empirical surveys, the research indicates that managerial perception is the most influential factor, demonstrated by the decisive role of leadership in orienting and allocating resources for sustainable development activities. Furthermore, the characteristics of the construction industry, with its stringent environmental and social requirements, also drive enterprises to adopt SRs to meet legal requirements and enhance competitiveness. Additionally, factors such as firm size, perceived benefits, growth opportunities, and stakeholder pressure are also identified as having significant influence, albeit with varying degrees of impact. The research findings not only clarify the impact mechanism of each factor but also propose practical solutions to enhance the SR adoption capability of listed CEs in Vietnam. This study contributes a scientific basis for policy-making and offers practical value in promoting sustainable development within the Vietnamese construction industry in the context of international integration.*
Keywords: *Sustainability report, listed construction enterprises, Vietnam.*

INTRODUCTION

In the context of globalization and international economic integration, Vietnam's construction industry is facing unprecedented challenges and opportunities. Vietnam's extensive participation in free trade agreements (FTAs) and commitments to sustainable development not only opens up opportunities to access new markets but also creates intense competitive pressure from international enterprises with superior technological, managerial, and financial capabilities. The construction industry – which plays a pivotal role in the economy – is facing an urgent need for governance innovation and enhanced sustainable development standards.In this context, the sustainability report (SR) is not only a tool for transparently disclosing financial and non-financial information but also a means of affirming the enterprise's reputation, governance capacity, and commitment to social and environmental responsibility. Adopting SRs helps Vietnamese construction enterprises not only meet legal requirements and international standards but also enhance their competitiveness, attract investment, and build trust with customers and stakeholders. According to legitimacy theory and stakeholder theory, SRs play an essential role in enhancing corporate legitimacy and maintaining harmonious relationships with various interest groups.However, in reality, the adoption of SRs by listed construction enterprises in Vietnam still faces many difficulties. Major challenges include limited awareness and commitment from management, a lack of financial resources and technological support for reporting, as well as pressure from stakeholders that is not yet sufficiently strong. Furthermore, the characteristics of the construction industry, with its large project scales, long lifecycles, and complex risks, demand a reporting system that is appropriately designed and comprehensive. This creates an urgent need for in-depth research into the factors influencing SR adoption, thereby proposing solutions to promote the effective application of these reports.Researching the factors affecting SR adoption not only helps clarify the impact mechanisms of internal factors (such as leadership perspective, firm size) and external factors (industry characteristics, stakeholder requirements) on the SR implementation process but also contributes to shaping a sustainable governance

system for enterprises. Simultaneously, the research findings can support Vietnamese construction enterprises in improving operational efficiency, minimizing risks, and affirming their commitment to sustainable development in the context of globalization and increasing ESG pressure.Thus, for the following reasons: (1) The trend of globalization and international integration; (2) The important role of SRs for Vietnamese construction enterprises in enhancing competitiveness and reputation; (3) The necessity for in-depth research on factors affecting SR adoption to promote sustainable development in the industry; the research topic "A study on factors affecting the adoption of sustainability reports by listed construction enterprises in Vietnam" is extremely urgent. This research not only has theoretical significance in developing a reporting system compliant with international standards but also brings great practical value, supporting Vietnamese construction enterprises in sustainable integration with the world.

LITERATURE REVIEW

2.1. Foreign studies on the adoption of sustainability reports

Jaggi (1996) investigated the relationship between managerial and accounting professionals' perceptions of environmental performance and disclosure in Hong Kong. The research results provided strong evidence that managers are increasingly aware of the need for environmental performance by Hong Kong companies and environmental information disclosure. However, there is a gap between managers' perceptions and the actual environmental performance of companies and their reporting. An assessment of financial reports showed that environmental information is rarely disclosed, and when disclosed, it is usually brief and primarily descriptive and narrative.Craig Deegan and Ben Gordon (1996) analyzed the environmental disclosure activities of Australian corporate entities from 1980 to 1991. There was a positive correlation between environmental sensitivity and the level of environmental disclosure by companies. For companies in environmentally sensitive industries, there was a positive correlation between environmental disclosure and company size. The study also indicated that consumer demand for environmental information from Australian businesses had not been met. This aligns with Owen's (1991) view on information disclosure activities in the United Kingdom, where voluntary corporate disclosure seemingly did not provide environmental information.De Villiers (2003) studied environmental information disclosure in South Africa. The question examined in this study was why managers decide to disclose environmental information despite it not being legally mandated in South Africa. Based on interviews using a pre-existing questionnaire, the results showed that pressure from external organizations plays a significant role in information disclosure; enterprises would probably not increase their information disclosure if not required. Disclosure of environmental reports often leads to increased commitment from management and better responsiveness to public needs.

Ferdinand A. Gul and Sidney Leung (2004) examined the relationship between board leadership structure and voluntary information disclosure decisions in Hong Kong enterprises. The duality of roles on the board of directors and management roles can create conflicts of interest and negatively impact voluntary information disclosure (Dalton and Kesner, 1987; Worrell et al., 1997). This implies that managers who are also board members will limit information disclosure to protect their interests.

Carmelo Reverte (2009) studied the determinants of corporate social responsibility disclosure by listed companies in Spain. The study showed that information disclosure varies among enterprises based on firm characteristics, industry characteristics, and mass media factors. Legitimacy theory and stakeholder theory play a core role in explaining the variables influencing corporate social responsibility disclosure by listed companies in Spain. Also based on these two theories, Wen Qu (2013) investigated voluntary information disclosure by listed companies in China from a stakeholder perspective. From the study of voluntary disclosure reports of 297 listed companies during the period 1995 – 2006, the paper indicated that a company's voluntary information disclosure is a result of stakeholder pressure, and companies use voluntary disclosure as one of their strategies to manage relationships between the enterprise and its stakeholders.

Clyde Geoffrey Mitchell and Trevor Hill (2009) studied Corporate Social Responsibility Reporting and the impact of Internal Environmental Policy in South African enterprises. Based on a survey method using a questionnaire developed from the Global Reporting Initiative (GRI), the research identified the challenges faced by enterprises in implementing a comprehensive corporate social responsibility reporting

strategy. Based on the findings, the study concluded that solutions for adopting corporate social responsibility reporting and mandates from international and national levels may face opposition from corporate managers and investors due to increased costs.Ramin Gamerschlag et al. (2011) studied the factors influencing the decision to disclose corporate social responsibility information by German enterprises. The authors relied on cost theory (Watts and Zimmermann, 1978) to argue that companies report on social responsibility for economic reasons: they try to reduce their legal costs by providing information about their social responsibility (Fields et al., 2001). Furthermore, from studying 130 companies that had disclosed corporate social responsibility information, the research showed that firm size, corporate image, shareholder structure, stakeholder interests, and profitability also have significant impacts.Ali Uyar et al. (2013) studied voluntary information disclosure by listed companies in Turkey. The research findings provided evidence of a positive relationship between the level of voluntary information disclosure and variables such as company size, audit firm size, the proportion of independent directors on the board, corporate ownership structure, and listing on BIST (Borsa Istanbul Stock Exchange). However, leverage and ownership dispersion were found to have a significant negative relationship with the level of voluntary disclosure. Other variables, namely profitability, listing age, and board size, were found to have no significant effect. The study has implications for companies, auditors, investors, and regulatory bodies and makes a significant contribution to research on this issue in developing countries.Bakr Ali Al-Gamrh and Redhwan Ahmed AL-Dhamari (2016) assessed Corporate Social Responsibility (CSR) information disclosed by listed companies in Saudi Arabia and investigated the influence of six company characteristics (company size, industry type, government ownership, company age, capital structure, and audit firm size) on the disclosure of corporate social responsibility information. The research results showed a positive influence of company size, government ownership, and company age on information disclosure. Conversely, industry type, capital structure, and audit firm size had no influence on the disclosure of corporate social responsibility information. The study makes a positive contribution to the body of knowledge on corporate social responsibility disclosure in developing countries. Abdalrhman Alnabsha (2017) researched the impact of the board of directors, ownership structure, and company-level characteristics on both mandatory and voluntary disclosure behavior of companies in the annual reports of Libyan enterprises. Using multivariate regression analysis, the results indicated that regarding the level of company information disclosure, our findings show that the overall level of information disclosure is generally low at around 68%. Concerning mandatory information disclosure, companies do not fully comply with the minimum requirements set by the Libyan authorities. Overall, the results showed that corporate governance variables are significant in explaining the level of information disclosure by companies. This implies that the Libyan authorities should consider imposing additional mandatory requirements on Libyan companies to protect stakeholder interests and avoid negative impacts that may arise from non-compliance.Waris Ali et al. (2017) studied the factors affecting corporate social responsibility disclosure in developed and developing countries. Based on surveys and content analysis of 76 empirical research papers, this article assesses the factors promoting corporate social responsibility disclosure in both developed and developing countries. The research results show that company characteristics such as company size, industry type, profitability, and corporate governance mechanisms play a significant role in corporate social responsibility disclosure. Besides, political, social, and cultural factors also have certain influences. The study pointed out differences between the determinants of information disclosure in developed and developing countries. In developed countries, specific stakeholder concerns, e.g., regulatory bodies, shareholders, creditors, investors, environmentalists, and the media, are considered very important in information disclosure. In contrast to developed countries, companies in developing countries perceive less pressure from relevant public groups. Obiamaka Adaeze Nwobu et al. (2018) studied managers' perceptions of factors influencing sustainability information disclosure in Nigeria. The factors were developed based on stakeholder pressure theory and institutional theory. From a survey of 81 enterprises in the oil and gas, banking, manufacturing, and consumer goods sectors in Nigeria, the results showed that pressure from regulatory bodies, investors, consumers, and investors significantly influences the disclosure of sustainability reports. The findings of this study provided a theoretical basis for subsequent research on sustainability information disclosure and its implications for research in less developed countries like Nigeria. Ranjani

Matta (2019) studied the factors influencing environmental information disclosure based on data collected from corporate managers. Analysis of the feedback showed that long-term business survival, minimization of environmental waste, and enhancement of corporate social responsibility are top priorities for information disclosure. Besides, some reasons such as avoiding the provision of sensitive and confidential information, lack of mandatory reporting requirements, and avoiding potential damage to the company's reputation are reasons that prevent an organization from implementing information disclosure. The study also indicated that disclosing corporate social responsibility information and sustainability is the right thing to do, but for many managers, this increases additional costs affecting company profits. Companies measure the cost of collecting and presenting such information and compare it with the benefits of doing so when deciding to disclose environmental information in their annual reports (Deegan and Rankin, 1999). A trade-off must be achieved between incremental benefits and the competitive disadvantage associated with information disclosure (Meek et al., 1995). The study emphasizes the role of managerial perception in adopting voluntary reports in enterprises.Venancio Tauringana (2020) studied the challenges of adopting sustainability reports in developing countries based on empirical evidence and data from 107 developing countries from 2014 to 2019. The study identified factors such as skills training, legal framework, guidelines for adopting sustainability reports, stakeholder pressure, awareness campaigns, market, and public pressure as some of the determinants for adopting sustainability reports. Based on this, solutions were proposed to enhance the ability to adopt sustainability reports in developing countries from the perspective of managers.

2.2. Domestic studies on the adoption of sustainability reports

Nguyen Thi Thu Hao (2015) studied the factors affecting the level of voluntary information disclosure by listed companies on the Ho Chi Minh City Stock Exchange (HOSE). The research objective was to identify the factors affecting the level of voluntary information disclosure by listed companies on HOSE. The author used a quantitative research method by surveying the annual reports of 106 listed companies on HOSE. The analysis results pointed to 3 factors: (1) Size; (2) Ownership type with foreign elements; (3) Profitability, which affect the level of voluntary information disclosure by listed companies on the HOSE market. The author also provided policy implications and recommended solutions to improve the level of voluntary information disclosure by companies on the HOSE market.Dang Ngoc Hung et al. (2018) studied the factors affecting the level of disclosure of social responsibility and sustainable development information by listed companies in Vietnam. The study used an index method and content analysis to measure the level of disclosure of social responsibility and sustainable development information in the annual reports of 289 companies. The results showed that the level of disclosure of social responsibility and sustainable development information in annual reports was 37.23%. The study identified 3 factors affecting the level of disclosure: profitability, firm size, and independent audit. However, 3 factors did not affect the disclosure level: financial leverage, number of board members, and chairman of the board cum general director. From this, the research team proposed some recommendations to help enterprises and regulatory agencies improve the level of disclosure of social responsibility and sustainable development information.Le Anh Tuan et al. (2019) studied the factors affecting the disclosure of sustainability reports: An empirical study at Vietnam National Petroleum Group (Petrolimex). This study analyzed data from 265 managers from department head level upwards working in 60 petroleum trading companies under Petrolimex across the country to examine the factors affecting the disclosure of sustainability reporting. Descriptive statistical methods, Cronbach's Alpha, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM) were used in this study. The empirical results showed that firm size, growth opportunities, legal regulations, business sector, and profitability are factors that positively impact the disclosure of sustainability reports. Managerial perception was not statistically significant for the disclosure of sustainability reports. The results provide a scientific basis for managers to make appropriate decisions in improving the disclosure of sustainability reports within their enterprises. Doan Ngoc Phi Anh, Nguyen Thi Tuyet Nga (2018) examined the factors influencing the level of sustainability information disclosure by manufacturing enterprises listed on the Vietnamese stock market. The research results showed that the level of Sustainability Information Disclosure (SID) by listed Vietnamese enterprises on the stock market was still quite low. Most listed enterprises only focused on SID according

to an available process, without much investment in disclosing transparent information, especially corporate SID. The research results also pointed out factors that positively correlate with the level of SID, including: firm size, foreign ownership, profitability, and financial leverage. From these results, it is suggested that to increase the level of SID, state support is needed for small and medium-sized enterprises to increase SID, allowing foreign companies to increase their ownership ratio in listed enterprises. Thereby, the State also needs to have appropriate policies to encourage enterprises to disclose SID according to GRI-G4 guidelines and the "Handbook for preparing sustainability reports" to ensure enterprises develop more sustainably. Le Anh Tuan, Nguyen Xuan Hung (2019) studied the current state of sustainability information disclosure and the applicability of sustainability reports in companies under the Vietnam National Petroleum Group (Petrolimex). Based on this, the study pointed out the necessity of applying sustainability reports in Vietnamese enterprises in general and companies under Petrolimex in particular. From the observations made, the study proposed measures to enhance the applicability of sustainability reports in business units under Petrolimex from the perspectives of state regulatory agencies and the enterprises themselves.

Bui Minh Phuong (2021) conducted research on the factors affecting the level of sustainability information disclosure in chemical companies listed on the Vietnamese stock market. The research scope focused on listed companies in the chemical industry on the Vietnamese stock market during the period 2017-2019. The research results also affirmed that stakeholder theory, agency theory, ownership cost theory, and signaling theory are appropriate. This study showed that four factors have a statistically significant positive impact on the disclosure of sustainability information by chemical companies listed on the Vietnamese stock market: company size, foreign ownership ratio, profitability (ROCE), and state ownership ratio. To raise awareness of the importance and requirements of sustainability information disclosure, some recommendations were made to the government, stock exchanges, and the listed companies themselves.Hoang Thi Hong Van et al. (2023) studied "Factors affecting the disclosure of sustainability reports by non-financial enterprises listed on the Vietnam stock market." This study used panel data, cross-sectional data, and time-series data from 253 non-financial enterprises listed on the Vietnam stock market during the period 2020-2022. The study also identified 2 new factors affecting sustainability reporting: audit by BIG4 and listing duration, in addition to 4 factors: profitability, firm size, Audit Committee meeting frequency, and leadership gender, where listing duration was the only factor negatively affecting report disclosure. The research results provide a basis for improving legal regulations on sustainability information disclosure, enabling relevant parties to make appropriate decisions.

2.3. Theoretical foundations for developing the research model

2.3.1. **Legitimacy Theory**

Legitimacy Theory, developed by Dowling and Pfeffer (1975), emphasizes that an enterprise can only survive and develop when its value system is consistent with the value system of society and the laws of the nation. According to this theory, listed construction enterprises in Vietnam, operating in an industry with many negative impacts on the environment and society, need to be transparent in disclosing sustainability reports to affirm legal compliance and social responsibility. This is not only a legal requirement but also a strategy to maintain reputation and strengthen trust from the community and stakeholders. Many previous studies have applied legitimacy theory to explain information disclosure trends; Carmelo Reverte (2009) studied the determinants of corporate social responsibility disclosure by listed companies in Spain. These studies show that enterprises often increase disclosure of sustainable development information to meet societal expectations and legitimize their business operations.

2.3.2. Stakeholder Theory

Stakeholder Theory was developed and popularized by R. Edward Freeman (1984). This theory emphasizes that enterprises need to consider and balance the interests of all stakeholders, not just shareholders, but also employees, customers, suppliers, communities, and other organizations. Many studies apply this theory to explain the phenomenon of disclosing sustainability and social responsibility information by enterprises. Wen Qu (2013) studied the voluntary disclosure of 297 listed companies in China and found that the company's voluntary information disclosure is a result of stakeholder pressure,

and companies use voluntary disclosure as one of their strategies to manage the relationship between the enterprise and its stakeholders.

2.3.3. Cost-Benefit Theory

Cost-Benefit Theory suggests that an enterprise will weigh the benefits and costs when deciding to disclose information. The benefits of information disclosure can include increased investor confidence, improved corporate reputation, and reduced cost of capital, while costs include the risk of losing competitive advantage and the cost of collecting and processing information (Ranjani Matta et al., 2019). In the context of listed construction enterprises in Vietnam, adopting sustainability reports helps enterprises enhance transparency, meet stakeholder expectations, and improve capital mobilization capabilities. However, the costs associated with collecting and disclosing sustainability information are also a significant barrier for enterprises (Deegan and Rankin, 1999).

2.3.4. Agency Theory

Agency Theory, primarily developed by Michael C. Jensen and William H. Meckling (1976), aims to explain why managers voluntarily disclose information to convince shareholders that they are managing effectively and minimizing risk. According to this theory, the level of information disclosure depends on enterprise characteristics such as size, financial leverage, and listing status (Ball & Foster, 1982); large enterprises with high financial leverage often disclose more information to satisfy creditors and reduce capital costs. Agency theory suggests that enterprises only disclose when the benefits outweigh the costs of information disclosure, and company characteristics help explain differences in the level of information disclosure in social responsibility reports.

METHODOLOGY

3.1. Questionnaire Design

Research Hypotheses

(1) Firm Size

Firm size has a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. According to Legitimacy Theory, larger enterprises often face higher social pressure from stakeholders, including shareholders, investors, customers, and the public, forcing them to be more transparent through the disclosure of sustainability reports to maintain reputation and legitimize business operations (Deegan, 1996). Furthermore, according to Stakeholder Theory, the larger the firm size, the more stakeholders there are with different expectations and requirements, leading enterprises to increase sustainability information disclosure to strengthen relationships and create competitive advantages (Freeman, 1984). Many empirical studies have also demonstrated the role of firm size in disclosing sustainability reports, typically Ramin Gamerschlag et al. (2011), Bakr Ali Al-Gamrh and Redhwan Ahmed AL-Dhamari (2016), Ali Uyar et al. (2013), as well as Nguyen Thi Thu Hao (2015), Dang Ngoc Hung et al. (2018) in the Vietnamese context. Hence, the hypothesis is proposed: H1+: Firm size has a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam.

(2) Growth Opportunities

Growth opportunities have a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. According to Agency Theory, managers will disclose information to convince shareholders that they are managing effectively and minimizing risk. Disclosing sustainability reports is one of the important signaling tools for enterprises to affirm social responsibility and long-term development commitment, thereby strengthening the trust of investors and stakeholders. Simultaneously, according to Stakeholder Theory, enterprises that are expanding their scale and seeking growth opportunities often face more demands for social and environmental responsibility from customers, partners, and regulatory agencies, forcing them to be more transparent and proactive in disclosing sustainability information (Freeman, 1984). The research by Le Tuan Anh et al. (2018) empirically at Vietnam National Petroleum Group (Petrolimex) showed that growth opportunities are one of the factors with a significant impact on the disclosure of sustainability reports. Hence, the hypothesis is proposed: H2+: Growth opportunities have a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. (3) Industry Characteristics

Industry characteristics have a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. According to Legitimacy Theory, enterprises operating in industries with a high impact on the environment and society, such as the construction industry, often face close scrutiny from the community, investors, and regulatory agencies (Suchman, 1995). Disclosing sustainability reports is considered a tool for enterprises in the construction industry to demonstrate commitment to social responsibility, reduce reputational risks, and maintain legitimacy in business operations. Furthermore, according to Stakeholder Theory, the construction industry is influenced by many interest groups such as customers, investors, government, and local communities, making the disclosure of sustainability reports an essential requirement to meet the expectations of stakeholders (Freeman, 1984). Globally, Carmelo Reverte (2009), Bakr Ali Al-Gamrh and Redhwan Ahmed AL-Dhamari (2016), Waris Ali et al. (2017), and the research by Le Tuan Anh et al. (2018) in Vietnam all show a significant influence of this factor. Hence, the hypothesis is proposed: H3+: Industry characteristics have a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. (4) Perceived benefits of adopting sustainability reports Perceived benefits when adopting sustainability reports have a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. According to cost-benefit theory, enterprises will proactively adopt sustainability reports if they perceive higher benefits than the costs incurred. Companies measure costs and compare them with the benefits of such actions when deciding to disclose environmental information in their annual reports (Deegan and Rankin, 1999). A trade-off must be achieved between incremental benefits and the competitive disadvantage associated with information disclosure (Meek et al., 1995). Some benefits an enterprise can receive include enhancing its image and reputation, attracting investors, improving relationships with stakeholders, as well as increasing competitiveness in the market. Hence, the hypothesis is proposed: H4+: Perceived benefits of adopting sustainability reports have a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. (5) Stakeholder Pressure Pressure from stakeholders has a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. According to Stakeholder Theory, enterprises exist and develop within a network of relationships with many stakeholders such as shareholders, customers, suppliers, communities, and regulatory agencies. These stakeholders can exert pressure demanding enterprises to be transparent in information disclosure and demonstrate social, environmental, and governance responsibility (Freeman, 1984). Empirical research by Venancio Tauringana (2020) and Abdalrhman Alnabsha (2017) has demonstrated that pressure from stakeholders, especially investors, customers, and regulatory agencies, is a strong driver for enterprises to adopt sustainability reports. In the Vietnamese context, the research by Le Anh Tuan et al. (2018) indicated that the State has a significant influence on promoting enterprises to adopt sustainability reports. Hence, the hypothesis is proposed: H5+: Stakeholder pressure has a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. (6) Managerial Perception Managerial perception has a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam. According to Agency Theory, managers are responsible for making decisions to protect the interests of owners (principals). When managers clearly recognize the important role of sustainability reports in information transparency, enhancing reputation, and building trust with stakeholders, they will be motivated to promote the adoption of these reports to reduce information asymmetry risks and conflicts of interest between parties. The research by Ranjani Matta (2019) also indicated that managerial commitment is a decisive factor in adopting sustainability reports to enhance accountability and improve relationships with shareholders as well as other stakeholders. Hence, the hypothesis is proposed:
H6+: Managerial perception has a positive impact on the adoption of sustainability reports by listed construction enterprises in Vietnam.

Research Model

The official research model is presented in Figure 1.

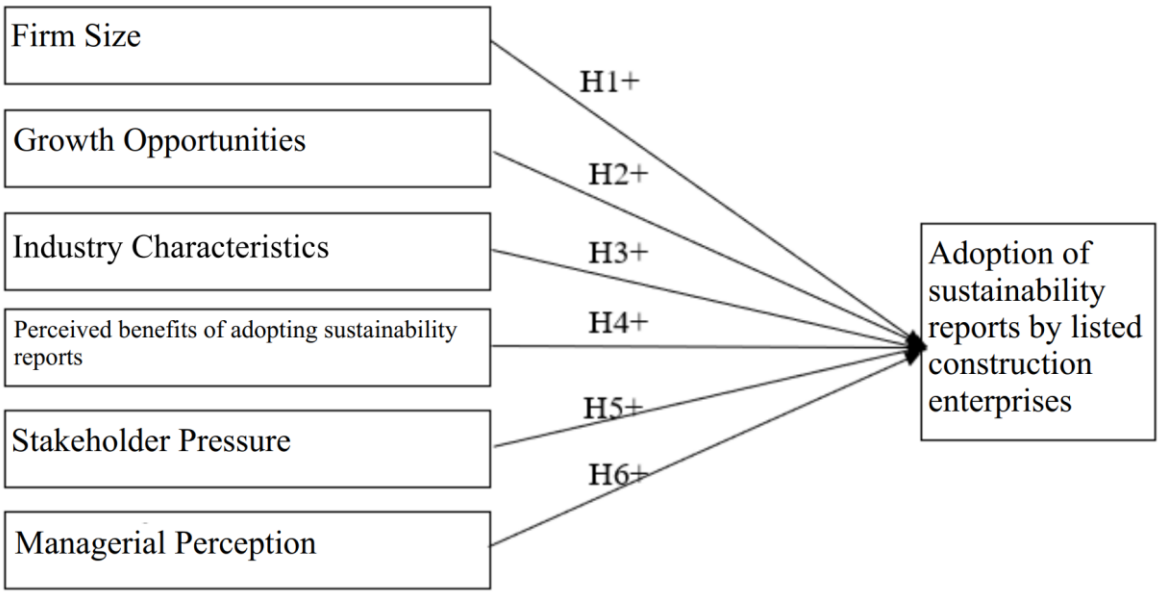

Figure 1. Official Research Model
(Source: Author's compilation)

Official Measurement Scales

The official measurement scales are presented in Table 1.

Table 1. Official Measurement Scales

Scale	Measurement Item	Code	Source
Firm Size	Large companies with many employees need to disclose SRs.	QM1	Tauringana (2020), Le Anh Tuan (2022)
	Companies with large, widespread operations across many areas need to enhance SR disclosure.	QM2	Dilling (2010), Le Anh Tuan (2022)
	High-revenue companies need to focus on SR disclosure.	QM3	Tagesson et al. (2009), Le Anh Tuan (2022), Obiamaka et al. (2018)
	Companies with large total assets need to disclose SRs.	QM4	Said & Haron (2009), Le Anh Tuan (2022), Obiamaka et al. (2018)
Growth Opportunities	The more transparently information is disclosed, the easier it is to attract capital from investors.	CH1	Shamil et al. (2014), Le Anh Tuan (2022)
	Enterprises have opportunities to increase revenue by disclosing transparent information in SRs.	CH2	Dilling (2010), Le Anh Tuan (2022)
	Enterprises have opportunities to reduce costs related to the transparency of business operations.	CH3	Dilling (2010), Ranjani Matta et al. (2019), Le Anh Tuan (2022)

	Enterprises have opportunities to expand markets and diversify business activities.	CH4	Le Anh Tuan (2022)
Industry Characteristics	The company's business sector contributes significantly to the national economy.	NN1	Le Anh Tuan (2022)
	The company's business sector impacts the environment (air, water, etc.).	NN2	De Villiers (1998), Le Anh Tuan (2022)
	The company's business sector affects the health and safety of employees.	NN3	Clarke & Gibson (1999), Le Anh Tuan (2022)
	The company's business sector will yield more benefits than costs when disclosing SRs.	NN4	De Villiers (2003), Le Anh Tuan (2022)
Perceived Benefits of Adopting SRs	The benefits of adopting SRs are greater than the costs of adoption.	LI1	Ranjani Matta et al. (2019)
	The company's image is improved by adopting SRs.	LI2	Ranjani Matta et al. (2019), Bikki Jaggi et al. (1996)
	Adopting SRs helps improve the company's financial performance.	LI3	Ranjani Matta et al. (2019)
	Adopting SRs will reduce future environmental liabilities.	LI4	Ranjani Matta et al. (2019)
Stakeholder Pressure	Enterprises will disclose SRs according to mandatory regulations from state authorities.	LQ1	De Villiers (2003), Ranjani Matta et al. (2019), Bikki Jaggi et al. (1996), Le Anh Tuan (2022)
	Enterprises need specific training and guidance from state authorities for SR disclosure.	LQ2	Tauringana (2020), Le Anh Tuan (2022)
	An independent body responsible for monitoring SR disclosure by enterprises is needed.	LQ3	De Villiers (2003), Le Anh Tuan (2022)
	Pressure from customers and competitors regarding SR disclosure by the enterprise.	LQ4	Ranjani Matta et al. (2019)
Managerial Perception	Managers want to minimize conflicts of interest with owners through SR disclosure.	QL1	Shamil et al. (2014), Le Anh Tuan (2022)
	Managers will provide accurate information based on available factual data.	QL2	De Villiers (2003), Le Anh Tuan (2022)

	Managers are responsible for adopting SRs for the enterprise.	QL3	De Villiers (2003), Bikki Jaggi et al. (1996)
	Managers of CEs have knowledge about SRs.	QL4	Le Anh Tuan (2022)
Adoption of SRs by listed CEs	More comprehensive presentation and disclosure of non-financial information related to environment and society.	AD1	De Villiers (2003), Le Anh Tuan (2022)
	Annual periodic presentation and disclosure of SR information.	AD2	De Villiers (2003), Le Anh Tuan (2022)
	Disclosure of SR-related information in a separate report.	AD3	De Villiers (2003), Le Anh Tuan (2022)
	Enterprises voluntarily disclose SRs.	AD4	De Villiers (2003), Le Anh Tuan (2022)
	Responsible for the accuracy of information disclosed to stakeholders.	AD5	De Villiers (1998), Le Anh Tuan (2022)

(Source: Author's compilation)

3.2. Sample Size and Sampling Method

For EFA, the sample size to item ratio is recommended to be 5:1, ideally 10:1 or higher (Hair et al., 2006). The author proposes a model with 7 factors (6 independent variables and 1 dependent variable) with 29 observed variables. If calculated at a 5:1 ratio, the minimum sample size would be 145; at a 10:1 ratio, the minimum sample size would be 290.Based on data from HOSE, HNX, and UPCOM, there are currently nearly 200 listed construction enterprises. 190 questionnaires were sent to respondents at managerial level or above. 181 responses were received, with 177 valid questionnaires. With 6 independent variables, 1 dependent variable, 29 observed variables, and based on the minimum sample size calculation, the study's sample size of 177 is entirely appropriate.

3.3. Data Collection Method

Questionnaires were used to collect data through survey methods, including: direct surveys, telephone interviews, mail, and internet (including email).

The survey questionnaire included questions aimed at assessing the level of influence of factors: Firm Size, Growth Opportunities, Industry Characteristics, Perceived benefits of adopting SRs, Stakeholder Pressure, Managerial Perception. The survey used a 5-point Likert scale ranging from "1-Strongly disagree" to "5-Strongly agree".

3.4. Data Analysis Method

The study uses SPSS 26 and AMOS 24 software to process data after receiving survey responses.

(1) Descriptive statistics of the sample Descriptive statistics present or describe the basic features of a dataset.

(2) Reliability analysis of measurement scales using Cronbach's Alpha

To measure internal consistency among statements within the same factor, the research team uses the Cronbach's Alpha reliability coefficient. A good measurement scale should have a reliability of 0.7 or higher (Nunnally, 1978). However, if it is too high (0.95 or higher), it may reflect that the scale has observed variables that are not significantly different in meaning and are considered nearly redundant within the scale (Nguyen Dinh Tho, 2013). In addition, the study also needs to pay attention to another

important index, which is the Corrected Item-Total Correlation. For an observed variable to be retained in the model, this coefficient must be 0.3 or higher to meet the requirement.

(3) Exploratory Factor Analysis (EFA) In this research, the team uses Exploratory Factor Analysis (EFA) as a tool to test the preliminary measurement scale. EFA is a quantitative method used to assess the discriminant and convergent validity of a scale; it helps to condense a set of many observed variables into a smaller, more meaningful set of variables, while still retaining sufficient information (Hair et al., 2006). EFA is performed by evaluating the criteria in Table 2

Table 2. Criteria for Exploratory Factor Analysis (EFA)

Criterion	Acceptable Value
KMO Coefficient	$(0.5 \leq KMO \leq 1)$
Bartlett's Test Significance	Sig Bartlett's Test < 0.05
Eigenvalue	Eigenvalue > 1
Total Variance Explained (TVE)	TVE > 50%
Factor Loading	≥ 0.5 or difference between two factor loadings on the same variable > 0.3

(Source: Author's compilation)

(4) Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is performed for the following purposes:

+ Evaluate the overall fit of the data based on model fit indices such as Chi-square/df, CFI, TLI, GFI, RMSEA... + Evaluate the quality of observed variables, confirming the factor structures.+ Evaluate convergent validity and discriminant validity of factor structures: According to Hair et al. (2010) and Hair et al. (2016), we use AVE, MSV indices, and Fornell and Larcker criteria to assess convergent and discriminant validity of the scales.(5) Multiple Linear Regression Model Analysis (Structural Equation Modeling) Structural Equation Modeling (SEM) is a second-generation statistical analysis technique developed to analyze multidimensional relationships among multiple variables in a model (Haenlein & Kaplan, 2004). The purpose of using SEM in this study is to assess the influence of factors on the adoption of SRs by listed CEs in Vietnam. Similar to the CFA method, the SEM model uses criteria to assess the fit of the theoretical model with market data: Chi-square (CMIN), chi-square adjusted by degrees of freedom (CMIN/df), comparative fit index (CFI), RMSEA index. The requirements for these indices are the same as those mentioned in the CFA model. After conducting SEM, in the Output section, the research team selects 3 result tables for assessment.

- The first table is the Regression Weights table. In this table, based on the P-value with a conventional significance level of P-value < 0.05, variables that are truly significant are identified.
- The second table is the Standardized Regression Weights table, which shows the direction and level of influence of each significant variable.
- The third table is the R-squared table, which shows the model's fit with the data.

(6) Testing for multicollinearity in the model: The Variance Inflation Factor (VIF) is an index for assessing multicollinearity in a regression model. The smaller the VIF, the less likely multicollinearity is to occur. The study uses the VIF < 2 criterion.

RESULTS AND DISCUSSIONS

4.1. Descriptive Statistics

Table 3. Descriptive Statistics of the Research Sample

Variable Analyzed	Component	Indicator	Mean	Std. Deviation
Factors influencing SR adoption by listed CEs in Vietnam	Firm Size	QM1	4.07	.687
		QM2	4.09	.814
		QM3	4.06	.867

		QM4	4.10	.899
	Growth Opportunities	CH1	4.04	.677
		CH2	4.11	.687
		CH3	3.99	.731
		CH4	4.05	.767
	Industry Characteristics	NN1	4.01	.780
		NN2	4.12	.807
		NN3	4.05	.701
		NN4	4.08	.644
	Perceived Benefits of Adopting SRs	LI1	4.06	.774
		LI2	3.97	.745
		LI3	3.96	.771
		LI4	4.20	.860
	Stakeholder Pressure	LQ1	3.89	.988
		LQ2	3.93	.960
		LQ3	3.85	1.012
		LQ4	4.05	.988
	Managerial Perception	QL1	3.81	.718
		QL2	3.88	.800
		QL3	3.97	.790
		QL4	4.05	.782
Ability to adopt SRs by listed CEs	Adoption of SRs by listed CEs	AD1	4.20	.594
		AD2	4.15	.675
		AD3	4.27	.577
		AD4	4.16	.689
		AD5	4.05	.717

(Source: Calculation results using SPSS software)

From the table above, it can be seen that the mean values of the observed variables are all within the range (3.81; 4.20), and additionally, the standard deviation is mostly less than 1. This indicates that the research sample is representative of the population.

4.2. Cronbach's Alpha Reliability Test

Table 4. Item-Total Correlation and Cronbach's Alpha

	Item-Total Correlation	**Cronbach's Alpha if Item Deleted**		**Item-Total Correlation**	**Cronbach's Alpha if Item Deleted**
Cronbach's Alpha: 0.876			**Cronbach's Alpha: 0.839**		
QM1	0.639	0.877	CH1	0.640	0.809
QM2	0.739	0.839	CH2	0.675	0.795
QM3	0.786	0.820	CH3	0.705	0.781
QM4	0.787	0.820	CH4	0.669	0.798
Cronbach's Alpha: 0.808			**Cronbach's Alpha: 0.845**		
NN1	0.637	0.754	LI1	0.693	0.799
NN2	0.622	0.764	LI2	0.709	0.793
NN3	0.626	0.760	LI3	0.765	0.767
NN4	0.630	0.761	LI4	0.576	0.854
Cronbach's Alpha: 0.829			**Cronbach's Alpha: 0.876**		
LQ1	0.657	0.783	QL1	0.704	0.853
LQ2	0.602	0.807	QL2	0.702	0.854
LQ3	0.664	0.780	QL3	0.780	0.822
LQ4	0.700	0.764	QL4	0.750	0.834
Cronbach's Alpha: 0.835					

AD1	0.603	0.812
AD2	0.629	0.804
AD3	0.650	0.801
AD4	0.642	0.801
AD5	0.671	0.793

(Source: Calculation results using SPSS software)

All measurement scales have Cronbach's Alpha > 0.7. The item-total correlations are all greater than 0.3 and are suitable for these scales. Thus, it can be assessed that these are good measurement scales, suitable for proceeding with Exploratory Factor Analysis (EFA), and EFA will be performed for 29 indicators.

4.3. Exploratory Factor Analysis (EFA)

4.3.1. Exploratory Factor Analysis (EFA) for Independent Variables

Table 5. KMO and Bartlett's Test for Independent Variables

KMO Measure of Sampling Adequacy		0.832
Bartlett's Test of Sphericity	Chi-Square	2103.324
	df	276
	Sig.	0.000

(Source: Calculation results using SPSS software)

The KMO coefficient = 0.832 > 0.5 meets the requirement for EFA, indicating that factor analysis is appropriate for the research data.

Bartlett's Test result: Sig = 0.000 < 0.05 shows that the variables are correlated within the population, so factor analysis can be performed.

Table 6. Total Variance Explained

Factor	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**			**Rotation Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	6.168	25.702	25.702	6.168	25.702	25.702	2.996	12.482	12.482
2	2.844	11.848	37.550	2.844	11.848	37.550	2.978	12.409	24.892
3	2.435	10.147	47.697	2.435	10.147	47.697	2.769	11.539	36.431
4	2.228	9.283	56.981	2.228	9.283	56.981	2.764	11.516	47.948
5	1.799	7.497	64.478	1.799	7.497	64.478	2.744	11.432	59.380
6	1.419	5.911	70.389	1.419	5.911	70.389	2.642	11.009	70.389

(Source: Calculation results using SPSS software)

The EFA results show that 6 factor groups were extracted from 24 observed variables. The total variance explained by these 6 groups is 70.389%, indicating that the extracted factors explain 70.389% of the data's variance.

The rotated component matrix is as follows:

Table 7. Rotated Component Matrix

	Factor					
	1	**2**	**3**	**4**	**5**	**6**
QM4	.888					

QM3	.883					
QM2	.853					
QM1	.729					
QL3		.847				
QL4		.833				
QL1		.814				
QL2		.800				
LI2			.829			
LI3			.817			
LI1			.789			
LI4			.714			
CH3				.800		
CH2				.783		
CH4				.763		
CH1				.754		
LQ4					.847	
LQ1					.800	
LQ3					.787	
LQ2					.741	
NN1						.822
NN3						.783
NN4						.752
NN2						.750

(Source: Calculation results using SPSS software)

The rotated component matrix analysis shows that the observed variables have converged into 6 factor groups, corresponding to the independent variables in the research model.

4.3.2. Exploratory Factor Analysis (EFA) for the Dependent Variable

Table 8. KMO and Bartlett's Test for the Dependent Variable

KMO Measure of Sampling Adequacy		0.794
Bartlett's Test of Sphericity	Chi-Square	338.993
	df	10
	Sig.	0.000

(Source: Calculation results using SPSS software)

Analysis using SPSS shows that the KMO = 0.794 > 0.5 meets the EFA requirement, and factor analysis is suitable for the research data. Bartlett's Test result: Sig = 0.000 < 0.05 shows that the variables are correlated within the population, so EFA can be performed.The EFA results show that 1 factor group was extracted from 5 observed variables. The component matrix is as Table 9 follows:

Table 9. Component Matrix

	Factor
	1
AD1	.562
AD2	.599
AD3	.620
AD4	.605
AD5	.643

(Source: Calculation results using SPSS software)

Based on the component matrix results, the dependent factor "Adoption of SRs by listed CEs in Vietnam (AD)" is measured by 5 observed variables (AD1, AD2, AD3, AD4, AD5). These observed variables all have high factor loadings, ranging from 0.562 to 0.643, ensuring the necessary convergent validity according to the standard (factor loading ≥ 0.5). The component matrix results confirm that the scale designed to measure the dependent factor "Adoption of SRs by listed CEs in Vietnam (AD)" has high reliability and is suitable for empirical data.

4.4. Confirmatory Factor Analysis (CFA)

*** Overall model fit assessment of the data**

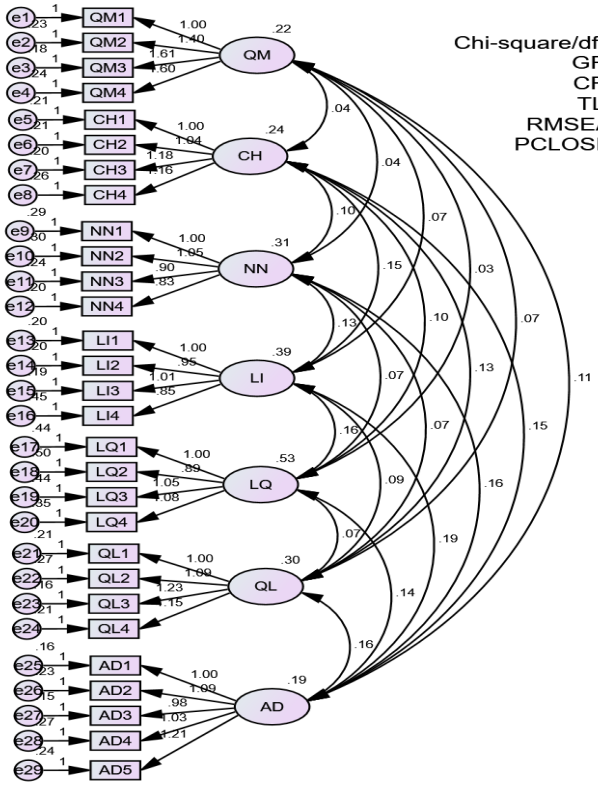

Figure 2. CFA Diagram

(Source: Calculation results using AMOS software)

Commonly used indices to assess Model Fit include:

+ CMIN/df = 1.393 ≤ 3
+ CFI = 0.945 ≥ 0,9
+ GFI = 0.847 ≥ 0,8
+ TLI = 0.937 ≥ 0,9
+ RMSEA = 0,047 ≤ 0,06
+ PCLOSE = 0,669 ≥ 0,05

The above indices all meet the permissible conditions, indicating good fit with the market data.

*** Assessment of observed variable quality**

P-values (Regression Weights Table) are less than 0.05 (this study uses a 5% significance level), and standardized factor loadings are all greater than 0.5, demonstrating that the observed variables significantly explain the parent factor.

*** Assessment of convergent and discriminant validity**

Table 10. Convergent and Discriminant Validity Assessment of Scales

	CR	AVE	MSV	MaxR(H)	QM	CH	NN	LI	LQ	QL	AD
QM	0.879	0.646	0.278	0.892	**0.804**						
CH	0.840	0.568	0.487	0.842	0.163†	**0.754**					
NN	0.812	0.518	0.427	0.812	0.168†	0.365***	**0.720**				
LI	0.852	0.593	0.477	0.867	0.230*	0.471***	0.363***	**0.770**			
LQ	0.830	0.551	0.210	0.836	0.096	0.275**	0.179†	0.357***	**0.742**		
QL	0.877	0.642	0.457	0.884	0.260**	0.496***	0.231*	0.257**	0.168†	**0.801**	
AD	0.835	0.504	0.487	0.838	0.527***	0.698***	0.653***	0.691***	0.459***	0.676***	**0.710**

(Source: Calculation results using AMOS software)

+ Convergent Validity: CR values for all factors are greater than 0.7, AVE values are all greater than 0.5. Both indices meet the assessment threshold, indicating very strong convergent validity.+ Discriminant Validity: All factors have MSV values less than AVE, if this is ensured, discriminant validity is achieved. The square root of AVE for a variable (bolded value at the top of each column in the Fornell and Larcker table) is greater than the correlation of that variable with other variables in the model, thus discriminant validity is ensured.

4.5. SEM Analysis

The research model of factors affecting the adoption of SRs by listed CEs in Vietnam yields the following results:

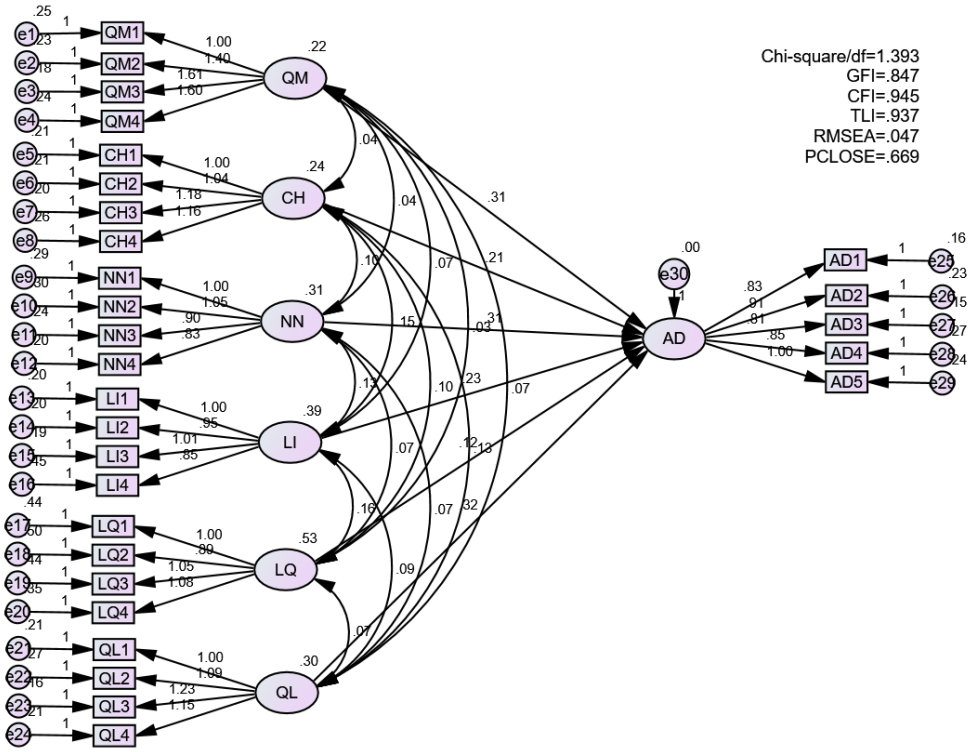

Figure 3. SEM Model

(Source: Calculation results using AMOS software)

The indices used to assess the overall fit of the common model include:

+ CMIN/df = 1.393 ≤ 3
+ CFI = 0.945 ≥ 0.9
+ GFI = 0.847 ≥ 0.8
+ TLI = 0.937 ≥ 0.9
+ RMSEA = 0.047 ≤ 0.06
+ PCLOSE = 0.669 ≥ 0.05

The above indices all meet the permissible conditions, indicating good fit with the market data.
The results obtained are in table form:

Table 11. Regression Weights - SEM

			Estimate	P-value
AD	<---	QM	.306	***
AD	<---	CH	.205	.002
AD	<---	NN	.311	***
AD	<---	LI	.226	***
AD	<---	LQ	.120	.001
AD	<---	QL	.317	***

(Source: Calculation results using AMOS software)

In Table 11, with 95% confidence, the P-values of the 6 factors "Firm Size," "Growth Opportunities," "Industry Characteristics," "Perceived benefits of adopting SRs," "Stakeholder Pressure," and "Managerial Perception" are all less than 0.05, so all 6 factors influence the Adoption of SRs by listed CEs in Vietnam. The variables QM, CH, NN, LI, LQ, QL have Beta coefficients > 0, indicating that these 6 independent variables in the model have a positive impact on the dependent variable. Thus, the "Firm Size," "Growth Opportunities," "Industry Characteristics," "Perceived benefits of adopting SRs," "Stakeholder Pressure," and "Managerial Perception" factors all have a positive impact on the ability to adopt SRs by listed CEs in Vietnam. Therefore, the research model proposed by the author is appropriate and meaningful.

Table 12. Standardized Regression Weights - SEM

			Estimate
AD	<---	QM	.274
AD	<---	CH	.193
AD	<---	NN	.331
AD	<---	LI	.271
AD	<---	LQ	.167
AD	<---	QL	.334

(Source: Calculation results using AMOS software)

Table 12 shows the standardized regression coefficients, indicating the impact level of the factors on the adoption of SRs by listed CEs in Vietnam. The impact level of the factors on the ability to adopt SRs by listed CEs in Vietnam is: the QL factor has the strongest impact on AD (Beta = 0.334), the next strongest impact is NN (Beta = 0.331), followed by the QM factor (Beta = 0.274), then the LI factor (Beta = 0.271), followed by the CH factor (Beta = 0.193), and the LQ factor has the weakest impact among the 6 factors (Beta = 0.167).

Table 13. R-squared - SEM

	Estimate
AD	0.986

(Source: Calculation results using AMOS software)

The R^2 of the dependent variable of Table 13 is 0.986, meaning the 6 factors "Firm Size," "Growth Opportunities," "Industry Characteristics," "Perceived benefits of adopting SRs," "Stakeholder Pressure," and "Managerial Perception" explain 98.6% of the variance.

4.6. Multicollinearity Test

Table 14. Multicollinearity Analysis

Collinearity Statistics		
Model	Tolerance	VIF
(Constant)		
QM	.906	1.104
CH	.697	1.434
NN	.872	1.146
LI	.749	1.335

LQ	.867	1.153
QL	.785	1.275

(Source: Calculation results using SPSS software)

Table 14, The VIF coefficients for all factors are < 2, indicating no multicollinearity. The reliability and accuracy of the estimates are ensured.

5. Conclusions and recommendations

CONCLUSIONS

The analysis results indicate that the research model fits the survey data very well. Specifically, the six researched factors, including "Firm Size" (QM), "Growth Opportunities" (CH), "Industry Characteristics" (NN), "Perceived benefits of adopting SRs" (LI), "Stakeholder Pressure" (LQ), and "Managerial Perception" (QL), explain 98.6% of the variance in the adoption of sustainability reports by listed construction enterprises in Vietnam. This shows that the above factors play an important role and need to be carefully considered when construction enterprises implement sustainability reporting.

The "Managerial Perception" (QL) factor has the strongest impact on the adoption of sustainability reports by listed construction enterprises in Vietnam, with a Beta coefficient of 0.334. This reflects the reality that company leadership plays a crucial role in strategic orientation and resource allocation for activities related to sustainable development. When managers have a deep awareness and high commitment to sustainable development goals, they will promote the serious disclosure of sustainability information, thereby reducing information asymmetry risks, enhancing transparency, and building trust with investors, customers, and other stakeholders. This is consistent with the specific nature of the construction industry, where projects are often lengthy, complex, and require strict environmental and social control.Next, the "Industry Characteristics" (NN) factor has a very large influence with a Beta coefficient of 0.331. The construction industry faces much pressure regarding environmental regulations, labor safety standards, and social responsibility; therefore, adopting sustainability reports not only helps enterprises meet legal requirements but also enhances their reputation and competitive position in the market. This helps construction enterprises build a positive image in the eyes of customers, partners, and the community, thereby contributing to promoting sustainable business operations.The "Firm Size" (QM) factor ranks third in terms of influence with a Beta coefficient of 0.274. Large enterprises often have ample financial resources and human capital to develop and maintain a sustainability reporting system. Simultaneously, large size also implies a higher degree of operational complexity and greater attention from stakeholders, making transparency and information disclosure essential elements for maintaining stability and long-term growth."Perceived benefits of adopting SRs" (LI) also has a significant impact, with a Beta coefficient of 0.271. When enterprises clearly recognize that reporting is not just an obligation but also brings practical values such as enhancing brand image, attracting capital, and improving relationships with stakeholders, they will be more proactive in investing in and improving their sustainability reporting system. This helps enterprises not only meet societal expectations but also increase their competitive advantage in the market.The "Growth Opportunities" (CH) factor has a moderate level of influence, with a Beta coefficient of 0.193. Enterprises on a development trajectory often face increasing pressure from the market and society regarding sustainable responsibility. Sustainability reports in this case are seen as an important tool to affirm commitment to sustainable development, and simultaneously as a means to effectively communicate the sustainable growth strategy to investors and customers.Finally, "Stakeholder Pressure" (LQ) has the weakest impact in the model, with a Beta coefficient of 0.167. Although pressure from shareholders, customers, government, and the community is still an important driver for enterprises to adopt sustainability reports, in the context of listed construction enterprises in Vietnam, this impact is not as strong as internal factors. This may be due to uneven levels of awareness and requirements from stakeholders, as well as the limited ability of enterprises to control external pressures compared to proactive internal factors.

5.2. recommendations

5.2.1. For the Managerial Perception factor

Managerial perception plays a central role in shaping and driving sustainable development strategies within an enterprise. Accordingly, senior management not only provides strategic direction but also

directly influences organizational culture and the entire system's commitment to sustainable development goals. To leverage this role, enterprises should implement in-depth training programs for leadership teams, combined with integrating sustainable development indicators into performance evaluation systems and long-term business plans. Consequently, decisions related to sustainable development will not be merely formal but will become an integral part of the enterprise's core growth strategy.

5.2.2. For the Industry Characteristics factor

The construction industry is strongly influenced by legal regulations related to the environment, labor safety, and social responsibility. This requires enterprises not only to comply but also to leverage the specific characteristics of the industry as a driving force to proactively implement sustainability reports. Enterprises should view reporting not just as a management tool but also as a positive communication means to enhance their image and build trust with customers, partners, and the community. Specifically, disclosing sustainability information helps enterprises affirm their professional standing and enhance their competitive edge in the increasingly stringent construction market regarding sustainable development standards. Furthermore, construction enterprises should invest in green construction technology, use environmentally friendly materials, reduce emissions, and improve labor safety to address the specific characteristics of the construction industry.

5.2.3. For the Firm Size factor

Large enterprises usually possess better financial resources and human capital to implement a comprehensive and professional sustainability reporting system. Simultaneously, large size also implies a higher degree of operational complexity and greater attention from stakeholders, creating significant pressure for transparency and accountability. Based on this, large enterprises should proactively invest in reporting systems, apply technology, and adhere to international standards to ensure reliability and transparency in information disclosure. This is not only an essential requirement but also an opportunity for enterprises to affirm their leading position in the field of sustainable development. Furthermore, small and medium-sized enterprises can adopt at a level appropriate to their own scale while integrating it into their long-term development strategy.

5.2.4. For the Perceived benefits of adopting SRs factor

When enterprises clearly and comprehensively recognize the benefits that sustainability reports bring, they will have stronger motivation to implement and improve their reporting systems. These benefits include enhancing brand image, attracting investment, improving relationships with stakeholders, and building market trust. Therefore, enterprises need to proactively communicate internally and externally about the practical values that adopting sustainability reports brings. Transforming reporting from a "compliance obligation" to a "value-adding tool" will help enterprises improve operational efficiency and maintain a long-term competitive advantage.

5.2.5. For the Growth Opportunities factor

For enterprises in a growth phase, pressure from the market and society regarding sustainable responsibility is increasing. In this context, sustainability reports can be used as a strategic tool to demonstrate the enterprise's commitment to sustainable values. Integrating sustainable development goals into growth strategies not only helps enterprises meet investor and customer expectations but also provides a foundation for building a strong and stable brand in the long run. Therefore, enterprises need to clearly recognize the supporting role of sustainability reports in strengthening their overall growth strategy.

5.2.6. For the Stakeholder Pressure factor

Although pressure from stakeholders such as shareholders, customers, government, and the community is not currently the strongest influencing factor, it still plays a significant role in promoting enterprises to adopt sustainability reports. To increase the impact of this factor, enterprises should proactively create conditions for dialogue, interaction, and listening to feedback from stakeholders, while also raising awareness in the community and market about the role of sustainable development. Building transparent communication channels, effective feedback mechanisms, and a commitment to social responsibility will help turn pressure into motivation, contributing to creating a sustainable development ecosystem that accompanies the enterprise.

Conflicts: There is no conflict for all
Funding: No Funding
Data Usability: Data will be made available upon reasonable request and the option to share data may be provided in the manner declared in the article

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