



## Corporate internet reporting by unlisted public firms in Vietnam

Nguyen Huu Cuong, Phan Thi Thanh Truc, Nguyen Hoang Hong Ngoc

Hoang Thi Thanh Thanh, Nguyen Thi Hoai Linh

Faculty of Accounting, Danang University of Economics - The University of Danang  
71 Ngu Hanh Son Street, Ngu Hanh Son District, Danang, Vietnam

### Abstract

*This article examines the extent of corporate internet reporting (CIR) among firms on Vietnam's Unlisted Public Company Market (UPCoM) and explores the factors influencing CIR disclosure levels. Using a sample of 143 unlisted firms from 2018, the research develops a disclosure framework with 70 indices, covering both content and format items. Ordinary least squares (OLS) regression is applied to test the influence of firm characteristics and corporate governance factors on CIR. The findings reveal that CIR levels are generally low, with firms focusing more on mandatory disclosures than voluntary ones. Firm size, profitability, and Big4 auditors positively impact CIR disclosure, while leverage, board size, board independence, CEO role duality, and major shareholding show no significant relationship. These results suggest that firm-specific factors are key drivers of CIR disclosure in Vietnam's developing securities market. This article contributes to the limited body of research on CIR in Vietnam, particularly among unlisted firms. It underscores the need for improved regulatory frameworks and clearer guidelines for voluntary disclosures. The study also encourages firms to leverage the Internet as a tool for enhancing transparency and attracting investors.*

**Keywords:** audit quality, disclosure, influencing factors, transparency, regulation.

**JEL classification:** G34, M41, M48.

## 1. Introduction

In business activities, investors require timely and reliable information about a company's financial position and performance to make informed decisions. The Internet has emerged as one of the most popular channels for disseminating financial information. It is a useful, timely, and cost-effective tool that allows stakeholders to access information more efficiently than traditional printed media (Mohamed *et al.*, 2009). Effective information disclosure is crucial for the development of stock markets and the protection of stakeholders' interests. Conversely, unreliable and inadequate information can lead to failures in resource allocation within markets. Companies should establish corporate websites to provide regular updates to ensure that investors can easily access essential financial information, such as annual reports and stock quotes. As a result, many companies now leverage the Internet as a strategic tool for financial information disclosure, shareholder engagement and potential investor attraction.

In Vietnam, these global trends are mirrored in the UPCoM market, which operates under the Hanoi Stock Exchange (HNX) as a transitional platform for stocks before they are listed on the Ho Chi Minh City Stock Exchange (HOSE) or HNX. In recent years, UPCoM has seen significant growth in trading volumes, market capitalisation, and the number of listed firms. It has, however, not garnered significant attention from investors due to its lower transparency compared to HOSE and HNX. Organisations trading on UPCoM vary widely in size, profitability, and disclosure practices. Despite legal regulations, many unlisted firms in Vietnam continue to provide incomplete and untimely financial disclosures.

It is widely acknowledged that information disclosure is essential for the proper functioning of capital markets (Saudagaran and Diga, 1997). Corporate disclosure helps reduce uncertainty for investors by providing them with necessary information, thereby promoting efficient resource allocation and enhancing transparency for stakeholders (Healy and Palepu, 2001).

Corporate internet reporting (CIR) has become a popular research area in many countries, especially in developed economies, but it remains an underexplored topic in developing nations. To our knowledge, no published research has specifically examined CIR among unlisted firms in Vietnam. This research aims to address this gap by investigating the extent of CIR by unlisted Vietnamese firms and its relationship with various firm and corporate governance characteristics. The research aims to answer the following questions:

- a) To what extent do unlisted firms in Vietnam disclose CIR?
- b) What factors influence the CIR disclosure among unlisted firms in Vietnam?

This research is among the first to explore CIR by Vietnamese unlisted firms, making a significant contribution to the literature, particularly given the limited research on the drivers of voluntary disclosure in Vietnam (see Zamil *et al.*, 2023) and factors influencing internet financial reporting (see Mokhtar, 2017). The findings indicate that the average CIR level is about 50 percent, highlighting the limited corporate disclosure on the Internet in Vietnam. Notably, voluntary disclosure accounts for less than 20 percent on average, suggesting that unlisted firms may not fully recognize the significance of voluntary information disclosure. The findings indicate that unlisted firms should leverage Internet disclosure as a strategic tool for disseminating diverse and up-to-date information. Furthermore, the importance of both content and presentation in Internet reporting is emphasised. The positive influence of firm size, profitability, and auditor type on CIR may offer valuable insights for policymakers, such as the State Securities Commission of Vietnam, in promoting CIR to enhance transparency within the UPCoM market.

## 2. Theoretical framework

Agency theory describes the relationship between principals (shareholders) and agents (managers), where principals delegate decision-making responsibilities to agents (Jensen and Meckling, 1976). Enhancing information disclosure helps mitigate agency problems by reassuring shareholders that the business is being managed optimally, thereby reducing agency costs and conflicts of interest between managers and shareholders. Factors influenced by agency theory include company size, profitability, leverage, ownership concentration, and corporate governance.

Signalling theory addresses the problem of asymmetric information between companies and investors, which can lead to suboptimal decisions by investors. Companies voluntarily disclose more information to signal positive prospects to the market (Watts and Zimmerman, 1978). Larger companies typically experience higher levels of asymmetric information, while more profitable companies are likely to disclose additional information to highlight their growth prospects, thereby positively impacting their stock price (Inchausti, 1997; Dyczkowska, 2014). Factors influenced by signalling theory include profitability and type of auditor.

Political theory suggests that state regulations and decisions affecting companies, such as tax policies and competition rules, are influenced by the availability of information. As a result, companies are motivated to disclose more information to mitigate political costs. Larger and more profitable companies, which are subject to greater political costs, are more likely to voluntarily disclose additional information (Watts and Zimmerman, 1978; Zamil *et al.*, 2023).

While agency theory focuses on resolving conflicts between principals and agents, signalling theory highlights how firms reduce information asymmetry, and political theory addresses how firms mitigate regulatory risks through disclosure.

### **3. Hypothesis development**

#### **3.1. Firm characteristics**

##### *3.1.1. Firm size*

According to agency and political theories, larger firms are exposed to higher agency and political costs, which compels them to engage in more extensive CIR practices to mitigate these costs. Numerous studies support this perspective, demonstrating a significant positive association between firm size and the extent of information disclosure, regardless of the method used to construct the disclosure index (Ashbaugh *et al.*, 1999; Craven and Marston, 1999; Pirchegger and Wagenhofer, 1999; Ettredge *et al.*, 2001; Xiao *et al.*, 2004; Ezat and El-Masry, 2008; Mokhtar, 2017; Luu, 2017; Khlifi, 2021; Xiang and Birt, 2021; Basuony *et al.*, 2022; Nguyen *et al.*, 2022; Hoang and Nguyen, 2023; Nguyen, 2023; Alshahrani *et al.*, 2024). Thus, this research proposes the following hypothesis:

*Hypothesis 1:* There is a positive association between firm size and the extent of CIR.

##### *3.1.2. Profitability*

Signalling theory suggests that profitable firms are inclined to disclose more information to signal their financial health and attract investment (Abd-Elsalam, 1999; Aly *et al.*, 2010; Homayoun and Rahman, 2010; Ta, 2014; Mokhtar, 2017; Elmarzouky *et al.*, 2021). Based on these insights, this research proposes the following hypothesis:

*Hypothesis 2:* There is a positive association between profitability and the extent of CIR.

##### *3.1.3. Leverage*

Leverage refers to a firm's use of debt to enhance returns on equity (ROE). Firms must meet creditors' requirements by disclosing reliable financial information on their websites to strengthen creditors' confidence in their ability to repay debts. Both shareholders and creditors seek detailed information to assess a firm's financial health and debt-paying ability (Larrán *et al.*, 2002; Oyelere *et al.*, 2003). According to agency theory, firms can reduce agency costs and align with creditors' interests by increasing their levels of information disclosure (Álvarez *et al.*, 2008). A higher leverage ratio may incentivise managers to provide more accurate information online to meet creditors' expectations regarding debt repayment. Studies examining the relationship between leverage and CIR have produced mixed results. For instance, Wallace *et al.* (1994) found a negative relationship between leverage and CIR. Conversely, most studies demonstrate a significant positive relationship

(Lang and Lundholm, 1993; Ferguson *et al.*, 2002; Xiao *et al.*, 2004; Gallery *et al.*, 2008; Mokhtar, 2017; Alshahrani *et al.*, 2024). Consistent with agency theory and drawing on previous findings, this research proposes the following hypothesis:

*Hypothesis 3:* There is a positive association between leverage and the extent of CIR.

## **3.2. Corporate governance**

### *3.2.1. Internal corporate governance*

#### *Board size*

Empirical studies present diverse findings regarding the impact of board size on information disclosure (Jensen, 1993; Ezat and El-Masry, 2008; Homayoun and Rahman, 2010; Pham and Do, 2015; Luu, 2017; Hoang and Nguyen, 2023; Alshahrani *et al.*, 2024). Given these mixed findings but consistent with agency theory's suggestion that larger boards improve governance, this research proposes the following hypothesis:

*Hypothesis 4:* There is a positive relationship between board size and the extent of CIR.

#### *Board independent directors*

The influence of independent directors on voluntary disclosure has been the subject of varied empirical evidence. Xiang and Birt (2021) found no significant correlation between the proportion of independent directors and CIR among the top 200 Australian firms. However, Adams and Hossain (1998) and Elmarzouky *et al.* (2021) identified a positive association between board independence and information disclosure, aligning with agency theory's premise that independent directors enhance corporate governance by improving oversight (Alshahrani *et al.*, 2024). Although findings in the literature are inconsistent, agency theory suggests that independent directors play a key role in improving transparency. Therefore, this research proposes the following hypothesis:

*Hypothesis 5:* There is a positive association between the proportion of independent directors and the extent of CIR.

#### *CEO role duality*

CEO role duality occurs when the CEO also serves as the chair of the board of directors. According to agency theory, separating these roles in large firms helps balance managerial performance (Haniffa and Cooke, 2002). Role duality can impair board independence, limiting the level of information disclosure to shareholders and external parties. Additionally, holding both roles may concentrate power and lead to opportunistic behaviour, potentially compromising shareholder interests. Previous studies on the relationship between CEO role duality and information disclosure have produced mixed results (Singhvi and Desai, 1971; Kelton and Yang, 2008; Forker, 1992; Abd-Elsalam *et al.*, 2004; Gul and

Leung, 2004; Abd-Elsalam *et al.*, 2007). In Vietnam, it is common for the board chairperson to also serve as CEO. If this dual role is appointed, it must be clearly stated and approved at the annual general meeting of shareholders (MOF, 2012). Decree 71/2017/ND-CP, effective from the fiscal year 2020, mandates the separation of the chairman and CEO roles in public firms (MOF, 2017). Based on these considerations, this research proposes the following hypothesis:

*Hypothesis 6:* There is a negative association between role duality and the extent of CIR.

### 3.2.2. External corporate governance

#### *Type of auditor*

The relationship between auditor type and disclosure levels has been the focus of conflicting research. Larger audit firms, such as the Big Four, are generally believed to promote greater precision and credibility in their clients' disclosures, thus upholding their reputation (Depoers, 2000). This aligns with signalling theory, which argues that comprehensive disclosure reflects good governance and transparency. Additionally, agency theory supports the notion that larger audit firms help mitigate agency costs by ensuring accurate financial reporting (Healy and Palepu, 2001). Most research supports the view that larger audit firms promote higher disclosure levels (Ahmed and Nicholls, 1994; Street and Gray, 2002; Abd-Elsalam *et al.*, 2004; Xiao *et al.*, 2004). However, Wallace *et al.* (1994) and Abd-Elsalam (1999) found no significant link between audit firm size and CIR. Despite some conflicting evidence, the majority of theoretical perspectives and empirical findings suggest that larger audit firms encourage higher levels of disclosure. Therefore, this research proposes the following hypothesis:

*Hypothesis 7:* There is a positive association between the type of auditor and the extent of CIR.

#### *Major shareholding*

Agency theory suggests that in environments with diffused ownership, companies are expected to disclose more information to reduce agency costs and information asymmetry (Jensen and Meckling, 1976). In contrast, highly concentrated ownership may lead to lower levels of disclosure (Abdelsalam *et al.*, 2007). In a diffused ownership setting, managers are expected to enhance both the level and quality of information disclosure to mitigate agency costs (Hossain *et al.*, 1995). Previous studies present mixed results (Haniffa and Cooke, 2002; Ghazali and Weetman, 2006). Based on the theoretical expectation that major shareholders reduce the need for public disclosure, this research proposes the following hypothesis:

*Hypothesis 8:* There is a negative association between major shareholding and the extent of CIR.

## 4. Research design

### 4.1. Research model

To address *RQ1*, this research employs a researcher-constructed index to measure and analyse five dimensions of CIR disclosure: (i) overall items (TOTAL), (ii) content items (CONTENT), (iii) format items (FORMAT), (iv) mandatory items (MAND), and (v) voluntary items (VOLUN). For *RQ2*, the eight hypotheses are jointly tested using the 2018 financial year data, through an ordinary least squares (OLS) regression, specified in the following equation:

$$\begin{aligned} CIRI_i = & \beta_0 + \beta_1 SIZE + \beta_2 PRO + \beta_3 LEV + \beta_4 BOARDSIZE + \beta_5 INDEPENDENCE \\ & + \beta_6 DUALROLE + \beta_7 BIG4 + \beta_8 MAJORHOLDING + \varepsilon \end{aligned} \quad (1)$$

Where:  $CIRI_i$  is the CIR disclosure index of firm  $i$ ;  $\beta_0$  to  $\beta_8$  are coefficients to be estimated;  $\varepsilon$  is error term.

#### 4.1.1. Dependent variable

A disclosure index comprising 70 items was developed based on the web-based disclosure framework proposed by Xiao *et al.* (2004), with additional references from prior studies (Debreceeny *et al.*, 2002; Akhtaruddin *et al.*, 2009; Boubaker *et al.*, 2011). In line with Debreceeny *et al.* (2002), the checklist items are categorised into two parts: CONTENT and FORMAT. Following Xiao *et al.* (2004), the content score measures the information provided on websites, divided into mandatory (MAND) and voluntary (VOLUN) categories, to capture the extent of CIR.

In the Vietnamese context, significant regulatory changes have aimed to enhance information transparency in the market. Therefore, the checklist has been expanded to include mandatory disclosure requirements from regulations, including Circular no. 155/2015/TT-BTC, Vietnamese Accounting Standards, and the Vietnamese Law on Securities. These regulations are applicable to the 2018 annual reports of UPCoM firms. The detailed list of the 70 disclosure items used to determine the CIR index is provided in Appendix I.

The disclosure score is measured using an unweighted approach, consistent with Xiao *et al.* (2004), which is commonly employed in prior studies not directed at a specific group of information users (Nguyen, 2023). The CIR disclosure index (TOTAL) for each firm is calculated as follows:

$$CIRD_i = \frac{\sum_{j=1}^n X_j}{n}$$

Where:

- $CIRD_i$  = Total CIR disclosure index (TOTAL) of firm  $i$  ( $0 \leq CIRD_i \leq 1$ );  
 $X_j$  = “1” if the item  $j$  is disclosed in the annual report and “0” otherwise; and  
 $n$  = 70, the maximum number of CIR disclosure items a firm could disclose.

This formula has been widely employed in previous studies, including Mohamed *et al.* (2009), Vu *et al.* (2011), Nguyen *et al.* (2022), and Hoang and Nguyen (2023). To address *RQ1*, this research also measures the disclosure of content items (CONTENT), format items (FORMAT), mandatory items (MAND), and voluntary items (VOLUN), as summarised in Table 1.

TABLE 1: **Measurements of dependent variables**

Variables	Measurement
TOTAL	Disclosure score for all the 70 items
CONTENT	Disclosure score for the 61 content items
FORMAT	Disclosure score for the 9 format items
MAND	Disclosure score for the 40 mandatory items
VOLUN	Disclosure score for the 21 voluntary items

*Source:* Created by the authors.

#### 4.1.2. Independent variables

In line with the existing literature, this research examines factors influencing CIR disclosure, which can be grouped into two categories: firm characteristics and corporate governance characteristics (Debreceeny *et al.*, 2002; Yang, 2008; Akhtaruddin *et al.*, 2009; Zamil *et al.*, 2023). The firm characteristics explored in this research include firm size, profitability, leverage, and type of auditor, which are recognised as key drivers of corporate disclosure (Nguyen, 2023; Zamil *et al.*, 2023).

The firm characteristics examined in this research include firm size, firm profitability, and firm leverage.

Firm size (*SIZE*) is measured using total assets, with value log-transformed to address potential heteroscedasticity issues (Fuertes-Callen *et al.*, 2014). Firm profitability (*PRO*) is measured using return on assets (ROA), which provides an indicator of operational performance independent of leverage. While return on equity (ROE) is often used in similar studies, ROA is selected in this research to offer insights into firm profitability without the influence of debt structure. Leverage (*LEV*) is measured as the ratio of total liabilities to total assets, reflecting the extent to which a company relies on debt financing.

The corporate governance characteristics examined in this research include board size, board independence, CEO role duality, type of auditor, and major shareholders.

Board size (*BOARDSIZE*) is determined by the number of directors on the board. In Vietnam, the size of the board of directors typically ranges from three to eleven members. Board independence (*INDEPENDENCE*) is measured as the proportion of independent directors relative to the total number of board members. CEO role duality (*DUALROLE*) occurs when the same individual holds the roles of both CEO and chairman of the board. This is a binary variable, assigned a value of one if the chairman also serves as CEO, and zero otherwise. Type of auditor (*BIG4*) is a binary variable that identifies whether a firm is audited by one of the Big Four auditing firms. A value of one is assigned if the firm's auditor is a Big Four firm, and zero otherwise. According to the Law on Enterprises (MOF, 2014), a major shareholder is defined as an individual or entity that directly or indirectly owns five percent or more of a company's stock. Therefore, the major shareholder variable (*MAJORHOLDING*) is measured as the percentage of shares held by these shareholders.

#### **4.2. Sample selection and data sources**

The initial sample comprised data from 644 registered organisations traded on the UPCoM, based on the 2018 list from the Hanoi Stock Exchange (HNX). The UPCoM is categorised into three groups: *Large*, consisting of firms with equity of at least VND 1,000 billion; *Medium*, including firms with equity from VND 300 billion to less than VND 1,000 billion; and *Small*, comprising firms with equity from VND 10 billion to less than VND 300 billion.

Using Excel's random function, 50 firms were randomly selected from each category. Certain exclusions were applied, such as the removal of banks, financial institutions, and insurance firms due to their differing reporting regimes, as well as firms without annual reports or those lacking data on the independent variables. This selection process resulted in a final sample of 143 Vietnamese unlisted firms.

Data were sourced from the 2018 annual reports, which are mandatory for all public companies in Vietnam and serve as a primary information source, consistent with the extant literature (Botosan, 1997). Additional data were obtained from the HNX website, the Information Disclosure System of the State Securities Commission, the firms' websites, and Vietstock.

Data indicate that firms in the large UPCoM set perform best in terms of TOTAL disclosure scores, with an average of 54.9 percent. In comparison, medium UPCoM firms report a lower average TOTAL disclosure score of 54.1 percent, and small UPCoM firms score an average of 52.8 percent.

Regarding CONTENT disclosure scores, large unlisted firms achieve the highest scores, ranging from 34.4 percent to 65.6 percent, with a mean of 50.7 percent. Medium unlisted firms report an average content disclosure score of 50.0 percent, with scores ranging from

40.6 percent to 65.6 percent. Small UPCoM firms exhibit a content disclosure range of 37.5 percent to 62.5 percent, with a mean of 48.8 percent.

When examining mandatory (MAND) and voluntary (VOLUN) content items, large unlisted firms show the highest mean mandatory score (65.2 percent), compared to 64.6 percent for medium UPCoM firms and 65.0 percent for small UPCoM firms.

A notable finding is the consistently low average voluntary disclosure score across all three UPCoM sets. Large UPCoM firms report a range of 9.5 percent to 38.1 percent, with a mean of 20.8 percent. Medium UPCoM firms range from 14.3 percent to 28.6 percent, with a mean of 20.1 percent, while small UPCoM firms show a range of 4.8 percent to 28.6 percent, with a mean of 15.6 percent. These low voluntary disclosure levels suggest that unlisted firms are not incentivised to disclose information beyond legal requirements.

Finally, the mean FORMAT disclosure scores for the large, medium, and small UPCoM sets are 85.0 percent, 83.6 percent, and 81.1 percent, respectively, indicating a relatively high level of format disclosure. However, a key limitation is the infrequent availability of company websites and annual reports in English. Many firms in the sample do not regularly provide information in English, highlighting a critical area that needs improvement.

The one-way ANOVA test, which examines the differences in the level of disclosure across the three UPCoM sets, reveals that voluntary information disclosure levels vary significantly between the groups ( $F = 10.968, p < 0.05$ ). Further analysis using Tukey's HSD test, detailed in Table 2, shows significant differences in VOLUN disclosure levels between the large UPCoM and small UPCoM groups ( $p\text{-value} < 0.001$ ). The mean difference (I-J) column for large UPCoM firms is 0.052, indicating that the VOLUN mean for the large UPCoM group is significantly higher than that of the small UPCoM group.

Additionally, significant differences in CONTENT disclosure levels were observed between the medium UPCoM and small UPCoM firm groups ( $p\text{-value} < 0.001$ ), indicating a statistically significant difference in VOLUN disclosure between these two groups as well.

**TABLE 2: Tukey's HSD test for CONTENT mean difference among UPCoM groups**

(I) GROUP	(J) GROUP	Mean difference (I-J)	Sig.	95% confidence interval	
				Lower bound	Upper bound
UPCOM LARGE	UPCOMMEDIUM	0.007	0.825	-0.022	0.036
	UPCOMSMALL	0.052*	0.000	0.023	0.081
UPCOM MEDIUM	UPCOMLARGE	-0.007	0.825	-0.036	0.022
	UPCOMSMALL	0.045*	<0.001	0.017	0.073
UPCOM SMALL	UPCOMLARGE	-0.052*	0.000	-0.081	-0.023
	UPCOMMEDIUM	-0.045*	<0.001	-0.073	-0.017

*Source:* Authors' calculation.

Firm size in the Large UPCoM set ranges from 9.088 to 13.916, with a mean of 10.607, suggesting a relatively large asset base compared to Medium and Small UPCoM firms. Profitability (ROA) exhibits a consistent mean of 0.051 across all groups, reflecting modest performance. Leverage in the Large UPCoM set varies widely (0.017 to 0.88, mean = 0.501), indicating substantial differences in debt reliance. The average board size is 5.35 members, within the legal range stipulated by the Law on Enterprises (Art. 150). However, only 5.1 percent of board members are independent, suggesting limited independent oversight. Major shareholders hold a significant stake, with an average ownership of 89.4 percent, potentially diminishing the need for voluntary disclosures.

For Medium UPCoM firms, the average firm size is smaller (mean = 9.604), and leverage is lower (mean = 0.419), indicating reduced debt exposure. Independent board membership averages 8.8 percent, slightly higher than Large firms, but still limited. Major shareholders control 73.4 percent of shares on average, which may influence disclosure behaviour.

Small UPCoM firms show the lowest average firm size (mean = 8.842) and the highest leverage (mean = 0.516), pointing to greater financial risk. The average board size is 4.62, and independent directors make up only 6.2 percent of the board, highlighting weak governance practices.

Regarding the dummy variables, 46.5 percent of Large UPCoM firms are audited by one of the Big4 auditing firms, reflecting a relatively high level of external audit quality. Additionally, 9.3 percent of these firms exhibit CEO duality, where the chairman also serves as the CEO, potentially raising governance concerns. In the Medium UPCoM set, only 12 percent of firms are audited by a Big Four firm, while 26 percent have CEO duality, a much higher proportion, suggesting weaker governance structures. Among Small UPCoM firms, CEO duality is even rarer, with only 2 percent of firms having a combined chairman and CEO role.

## **5. Findings and discussion**

### ***5.1. Univariate statistical analysis***

Table 3 presents the Pearson correlation matrix for the independent variables: firm size (SIZE), profitability (PRO), leverage (LEV), board size (BOARDSIZE), board independence (INDEPENDENCE), CEO role duality (DUALROLE), type of auditor (BIG4), and major shareholding (MAJORHOLDING). The correlation coefficients between these variables are all below the 0.800 threshold suggested by Gujarati and Porter (2003), indicating no significant multicollinearity. This ensures that the independent variables do not exhibit problematic correlations, thereby supporting the reliability of the regression model's interpretation.

TABLE 3: Pearson correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) SIZE	1							
(2) PRO	0.537**	1						
(3) LEV	0.154	-0.008	1					
(4) BOARDSIZE	0.158	0.053	-0.051	1				
(5) INDEPENDENCE	0.126	0.169*	-0.069	0.033	1			
(6) DUALROLE	-0.109	-0.078	-0.081	0.141	-0.025	1		
(7) BIG4	0.576**	0.406**	0.126	0.169*	0.098	-0.168*	1	
(8) MAJORHOLDING	0.296**	0.070	0.108	-0.041	0.019	-0.307**	0.249**	1

\*\* Correlation is significant at the 0.01 level (2-tailed)  
\* Correlation is significant at the 0.05 level (2-tailed)

Source: Authors' calculation.

### 5.2. Multivariate statistical analysis

Table 4 presents the regression results testing the hypotheses on factors influencing CIR disclosure levels among unlisted public firms in Vietnam. The model is statistically significant and 44.8 percent of the variation in CIR disclosure is explained by the independent variables. Additionally, the tolerance scores and the VIF values confirm no multicollinearity issues.

TABLE 4: Regression results

Variable	Coefficients	t-stat	p-value	Tolerance	VIF
(Constant)		13.836	0.000		
SIZE	0.310	3.557	0.001	0.512	1.954
PRO	0.216	2.827	0.005	0.666	1.503
LEV	-0.071	-1.102	0.272	0.945	1.058
BOARDSIZE	-0.027	-0.409	0.683	0.924	1.082
INDEPENDENCE	-0.035	-0.546	0.586	0.963	1.038
DUALROLE	0.033	0.500	0.618	0.872	1.147
BIG4	0.353	4.479	0.001	0.627	1.596
MAJORHOLDING	-0.080	-1.158	0.249	0.814	1.229

R<sup>2</sup> = 0.479  
Adj. R<sup>2</sup> = 0.448  
F- statistics = 15.391  
F significance < 0.000  
Durbin-Watson test = 2.063

Source: Authors' calculation.

Table 4 shows that the coefficients for SIZE, PRO, and BIG4 are positive and statistically significant at the 1 percent level, while the remaining variables do not show significant results in explaining the extent of CIR disclosure among unlisted public firms in Vietnam.

Consistent with hypothesis 1, the coefficient for SIZE is positive and statistically significant, indicating that larger firms disclose more information online. This finding aligns with the predictions of agency and political theories, where larger firms face higher scrutiny and are motivated to provide greater transparency. It is also consistent with prior studies

(Ashbaugh *et al.*, 1999; Craven and Marston, 1999; Vu *et al.*, 2011; Pham and Do, 2015; Xiao, *et al.*, 2004; Ezat and El-Masry, 2008; Mokhtar, 2017; Luu, 2017; Basuony *et al.*, 2022; Nguyen *et al.*, 2022; Hoang and Nguyen, 2023; Nguyen, 2023; Alshahrani *et al.*, 2024).

For hypothesis 2, the coefficient for PRO is positive and significant, confirming that more profitable firms tend to disclose more information. This supports agency and signalling theories, where profitable firms use disclosure to enhance investor confidence and signal their superior performance. The finding is consistent with previous research (Abd-Elsalam, 1999; Craven and Marston, 1999; Ahmed and Courtis, 1999, Marston and Polei, 2004, Oyelere *et al.*, 2003, Aly *et al.*, 2010; Homayoun and Rahman, 2010; Ta, 2014; Luu, 2017; Mokhtar, 2017; Xiang and Birt, 2021; Elmarzouky *et al.*, 2021). In Vietnam's relatively young securities market, more profitable firms are likely motivated to distinguish themselves through greater transparency.

The coefficient for BIG4 is positive and significant, supporting the hypothesis 7. Firms audited by Big Four auditors tend to disclose more information, both mandatory and voluntary, consistent with prior studies (Ahmed and Nicholls, 1994; Street and Gray, 2002; Abd-Elsalam *et al.*, 2004; Xiao *et al.*, 2004; Luu, 2017; Mokhtar, 2017; Nguyen *et al.*, 2022; Nguyen, 2023). Big Four auditors likely encourage their clients to enhance their CIR practices to maintain reputation and meet international standards.

However, the regression analysis shows that LEV, BOARDSIZE, INDEPENDENCE, CEO DUALROLE, and MAJORHOLDING do not exhibit a statistically significant effect on CIR disclosure. While the hypotheses predicted a relationship, the lack of significant results suggests that factors such as governance structures and corporate practices in Vietnamese unlisted firms may differ from expectations, possibly due to weaker enforcement of governance norms. As a result, hypotheses 3, 4, 5, 6, and 8 are rejected.

## 6. Conclusion

This research is among the first to examine the extent of Corporate Internet Reporting (CIR) and its relationship with firm characteristics and corporate governance structures in Vietnamese unlisted public firms. The findings reveal that overall levels of information disclosure remain relatively low, particularly with regard to voluntary disclosures. Several factors contribute to this, including insufficient regulatory enforcement and weak penalties for non-compliance. Additionally, the absence of clear guidelines for voluntary disclosure has led firms to focus mainly on fulfilling mandatory disclosure requirements. Crucially, the awareness and commitment of firms to the importance of information transparency plays a significant role. Inadequate disclosure not only undermines a firm's reputation but also hinders its ability to attract capital, emphasising that disclosure should be seen not merely as a legal obligation but as a critical responsibility to shareholders and investors.

The research provides several key recommendations for Vietnamese policymakers, regulatory bodies, and the management of UPCoM firms. The results show that firm size (SIZE), profitability (PRO), and type of auditor (Big4) significantly influence CIR disclosure among Vietnamese unlisted firms, while no significant relationship was found between leverage (LEV) or the four corporate governance characteristics (board size, board independence, CEO role duality, and major shareholding) and CIR disclosure. These findings underscore the need for targeted policy interventions to enhance transparency and promote best practices in information disclosure.

This research makes important contributions to both academic literature and corporate practice. First, it expands the limited body of knowledge on CIR in Vietnam, with a focus on unlisted public firms. Most previous studies have concentrated on listed firms and voluntary disclosure; this research, however, addresses both mandatory and voluntary disclosures, filling a gap in the literature related to the unique challenges faced by unlisted firms. Given the transparency issues in Vietnam's securities market, this research provides valuable insights for market participants navigating risks associated with incomplete or insufficient disclosure.

Second, the study enhances the understanding of information disclosure practices in unlisted public firms and highlights the underutilised role of the Internet as a disclosure tool. Despite the increasing demand for transparency, particularly in the rapidly growing UPCoM market, the level of voluntary disclosure remains uniformly low across different UPCoM groups. This indicates a widespread lack of focus on non-mandatory disclosures, which firms should seek to improve to build investor trust and enhance their market position.

The rapid growth of UPCoM has intensified the demand for transparent and timely information disclosure, yet actual practices continue to fall short. Unlisted firms are encouraged to leverage the Internet as a platform for comprehensive and timely disclosures. Improvements such as enhancing website functionality and offering information in English could facilitate foreign investment and boost overall transparency.

For policymakers and regulatory bodies, this research underscores the importance of strengthening legal enforcement and providing clearer guidelines for voluntary disclosure. Existing regulations lack provisions to encourage voluntary disclosures, which should be addressed to promote more comprehensive corporate reporting. Policymakers could encourage firms to disclose additional information beyond financial performance, such as corporate social responsibility initiatives, strategic partnerships, and community engagement activities. Such measures could greatly enhance transparency and foster investor confidence.

Despite its contributions, this research has several limitations. First, it does not explore other communication channels, such as social media or dedicated company websites, which could be important in understanding the broader context of internet-based financial

reporting. Future research could examine these channels, incorporating comprehensive frameworks such as Probowulan and Ardianto's (2024) scoring matrix, to gain deeper insights into how firms use the Internet for corporate disclosure.

Second, the study is based on data from a single year (2018), which limits the ability to observe trends over time. Longitudinal studies could provide a more nuanced understanding of how CIR practices evolve, particularly in response to changes in regulation or market conditions.

Finally, future research could explore additional factors influencing CIR disclosure in Vietnamese unlisted firms, including cultural factors, market competition, and the role of institutional investors. A broader set of variables could deepen our understanding of how Vietnamese firms approach corporate governance and disclosure in a rapidly developing market.

The UPCoM market was established to streamline the management of unlisted company stocks and foster a transparent and safe trading environment. Despite over a decade of development, UPCoM remains less attractive due to weak information disclosure practices. It serves as a transitional platform where Vietnamese firms can develop corporate governance and disclosure competencies before pursuing full listings. For unlisted firms, engaging in CIR is critical to attract both domestic and foreign investors as the Internet offers a unique platform to enhance corporate reporting practices. In this context, CIR is a vital area of research, particularly in Vietnam, where information transparency remains a key challenge in the securities market.

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### Appendix 1 - CIR disclosure index

No	Disclosure items
<b>Content items (61 items)</b>	
<i>Mandatory items (40 items)</i>	
1	General information
2	Yearly Operations
3	Report and assessment of the Board of Management
4	Corporate governance

No	Disclosure items
5	Assessments of the Board of Management on the Company's operation
6	Auditor's opinions
7	Balance sheet
8	Income statement
9	Cash flow statement
10	The notes to the financial statements
11	Explanation of the company related to annual financial statements
12	Condensed balance sheet
13	Condensed income statement
14	Condensed cash flows statement
15	Selected the notes to the financial statements
16	Explanation of the company related to half-year financial statements
17	Condensed balance sheet
18	Condensed income statement
19	Condensed cash flows statement
20	Selected the notes to the financial statements
21	Explanation of the company related to quarterly financial statements
22	Annual Shareholders' Meeting Documents
23	Resolution of annual Shareholders' Meeting
24	Report on corporate governance – six months
25	Report on corporate governance- year
26	Change of the legal representative or the authorized person
27	The decision of the Board of Management
28	Change in number of voting shares outstanding
29	Changes in the Certificate of Enterprise registration
30	Changes in Human resource
31	The auditor's qualified opinion and other notes
32	Disclosure of Irregular information within twenty-four (24) hours
33	Disclosure of Irregular information within seventy-two (72) hours
34	Other irregular information
35	The General Meeting of Shareholders - Irregular
36	Resolution of the General Meeting of Shareholders - Irregular
37	The last registration date of rights to buy shares exercised by existing shareholders
38	Notice of transaction of major and inside shareholders
39	Results of transaction of major and inside shareholders
40	Other information disclosure as required
<i>Voluntary items (21 items)</i>	
1	Share price information
2	Competitors analysis
3	Market share analysis
4	Advantages and disadvantages in the development of customers and markets
5	Business environment (economics, politic, etc.)
6	Statement disclosure relating to competitive position in the industry
7	Forecast of sales
8	Forecast of profits

No	Disclosure items
9	Forecast of cash flows
10	Discussion of external factors affecting the firm's future (economics, politics and technology)
11	General discussion of future industry trend
12	Discussion on future expenditure
13	Discussion on the effects of foreign currency on future operating activities
14	Discussion on the effects of inflation on future operating activities
15	Discussion on the effects of interest rates on future operating activities
16	Reasons for change in employee number
17	Expenses for employee training
18	Data on accidents
19	Safety of the products
20	Company awards
21	Code of ethics
<i>Format items (9 items)</i>	
1	English version of the company website
2	English version of annual reports
3	Email contact available
4	Telephone number
5	Sitemap/Table of content
6	Search engines
7	Help section available
8	Annual report in PDF-format/and or HTML-format
9	Downloads of annual reports

*Notes:* This table outlines 70 disclosure items used to determine the CIR disclosure scores. The 61 mandatory disclosure items are based on the relevant requirements, including i) the circular on guidelines for information disclosure on securities market, ii) Vietnamese Accounting Standards, and iii) the Law on Securities. The 21 voluntary disclosure items are derived from prior literature.

### Article history

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