Determinants of sustainability reporting: An empirical research on Vietnamese Listed companies

Hoang Thi Mai Khanh, Nguyen Anh Tuan

Abstract—This research aims at providing some empirical evidence on determinants of sustainability reporting in Vietnam. A sample of 99 sustainability reports published by listed companies for the year of 2016 was obtained and further analysed by employing content analysis method to construct sustainability reporting index for each company. The study used a wide range of variables to examine hypotheses developed. Firm size, gross profit margin and export status are found to significantly positively associate with sustainability reporting quality.

Keywords—Sustainability; GRI; financial performance; sustainability reporting, Vietnam...

1 INTRODUCTION

Previous studies have revealed different results regarding the impact of industry in which a company operates on its sustainability reporting quality. Some authors indicated that there are significant variations in the extent and nature of sustainability reporting between high-risk, sensitive and heavy industry sectors [14; 27; 29]. Nonetheless, others found that superior performance belonged to banking and finance industry [15] or manufacturing [28]. Especially, Chen, Feldmann, and Tang showed that the influence of industrial characteristic was invisible on the ground that no significant difference in companies’ disclosures was observed among distinct industry sectors [8].

Additionally, considering the costs involved in preparation of sustainability reporting package, financial performance could be a critical factor affecting quality of reporting [34]. Some research showed that there were strong links between financial results and sustainability reporting practices [7; 14; 27; 31; 32; 41]. In the meanwhile, there are evidences from other studies showing that the relationship between financial performance and sustainability reporting practices was insignificant [28; 40]. Due to debatable results from prior studies, this research is to clarify the relationship between industrial characteristics and financial performance with the quality of sustainability reporting.

Besides sector and organisational characteristics, there are several papers of research indicating the impact of board gender diversity on the quality of sustainability reporting [11; 24; 20; 4; 33]. These studies shared relatively similar results in that greater gender diversity in board would positively enhance the engagement in environmental and social responsibilities as well as the activeness in reporting these performances. This research considers board gender diversity as an influencing factor and determines its impacts by observing detailed variables: number of female NEDs, percentage of female NEDs, female CEO and female chairman.

Not less important, previous studies mainly focused on developed countries which have different social, legal, environmental backgrounds, economic and political contexts from emerging markets. Therefore, it may be not reasonable to generalise these results for developing nations. As developing countries, Vietnam is facing a wide range of economic, environmental and social issues relating to costs saving, low productivity, pollution, poor resources management, consumer rights and gender gaps in workplace. A research conducted by Nielsen Vietnam in 2015 revealed
that 86% of Vietnamese consumers would be willing to pay a premium to buy products or services from sustainable development companies which was the highest percentage among South East Asia countries [35]. This suggests the enhancement of customers’ attention regarding sustainable issues, which encourages corporations to engage in sustainability practices. Nevertheless, the importance of sustainable performance and reporting has been not well recognised by many organisations. Concerning empirical research on sustainability reporting practices, there has been very limited amount of research in Vietnam. Therefore, this study is undertaken with the purpose of providing some preliminary empirical evidence on which factors influence sustainability reporting quality.

2 LITERATURE REVIEW AND DEVELOPED HYPOTHESES

2.1 Sustainability reporting

Global Reporting Initiative defines sustainability reporting as “a process that assists organizations in setting goals, measuring performance and managing change towards a sustainable global economy – one that combines long term profitability with social responsibility and environmental care”[35]. Sustainability reporting is increasingly popular on a global scale due to broader awareness of sustainable development in terms of environment and business. Sustainability reporting benefits greatly companies by building trust with stakeholders which helps reduce reputational risks, improving internal management and decision-making process as well as information system, progressing vision and strategy that helps companies address strengths and weaknesses, reducing compliance costs and creating competitive advantages [35].

Sustainability reporting framework

To report voluntarily on sustainability practices, companies can adopt numerous approaches, among which GRI is the most widely used. Despite not a mandatory reporting framework, over 75% of G250 companies applied GRI guidelines to prepare their sustainability reports (DiGuilio, 2010). With the vision of creating a future which sustainability is integrated into organisational decision-making process, GRI aims at developing a reporting framework that sustainability reports become regular and comparable as financial reporting. The principles for defining reporting quality include: balance, comparability, accuracy, timeliness, clarity and reliability [35].

In general, a sustainability report consists of two parts: general standards disclosure and specific standards disclosure. The former includes disclosure relating to strategy and analysis, organisational profile, identified material aspects and boundaries, stakeholder engagement, report profile, governance, ethics and integrity. The latter includes disclosure relating to 6 categories: economic, environmental, labour practices and decent work, human rights, society and product responsibility.

2.2 Determinants of sustainability reporting

Previous studies have explored determinants of sustainability reporting based on a number of legitimate threats and stakeholder pressures. From legitimacy theory perspective, organisations in their existence receive supports from surrounding stakeholders, hence in turn they should benefit the society where they base or at least do not cause harms to that society. Between the organisations and society, there is a ‘social contract’ that constrains organisations’ activities within boundaries set by society [12]. As far as stakeholder theory is concerned, organisations are accountable to a wide range of stakeholders due to their (potential) significant impact on society that cannot be only responsible to shareholders [36]. Sustainability reports is one of the ways in which organisations ensure that their operation is perceived as legitimate by outsiders [12] as well as satisfy stakeholders’ informational needs [36].

The most common factors examined are company size, industry sectors and financial performance. Additionally, corporate governance characteristics are also considered as significant factors. However, the results from previous studies are rather disparate and debatable in some aspects.

Firm size

From the view of legitimacy theory, large-sized companies are considered have greater impacts on society due to more geographical and product diversifications that effect a wider range of stakeholders groups [6] as well as exposure to higher likelihood of negative events [5; 19].
Therefore, they inevitably arouse more stakeholders’ interest and face higher scrutiny [21]. Consequently, the quality of sustainability reporting as well as the adoption of GRI application levels in large companies is expected to be superior to others in the purpose of legitimating their business [29]. Additionally, large firms also have more resources to engage in sustainability reporting practices [30; 31], not to mention the lower costs for disclosure [25; 28].

Empirical researches showed consistent evidences ranging from develop market [17; 18; 25] to emerging market [16; 31; 32; 38; 40]. To examine the relationship between firm size and sustainability reporting in Vietnam, we construct the following hypothesis:

**H1**: Firm size has a significant positive association with sustainability reporting.

**Corporate financial performance**

Considering the costs incurring from sustainability reporting practices, better financially performing companies are expected to have higher budget toward these activities, hence enhance sustainability performance. Strong financial resources allow companies to flexibly handle the cost of consequences from negative disclosed information [10; 22]. Additionally, from the perspective of stakeholder theory, the priority belongs to investors (primary stakeholders), then the secondary stakeholders needs are only perceived when there are expandable resources [14]. Concerning leverage, a high gearing can be assumed to be a constraint for CSR reporting practice [10; 39]. However, companies with high leverage have great motivation to enhance reporting activities in order to legitimate their operation towards creditors and investors [22] and then reduce capital cost [26].

There are a number of empirical studies found significant positive relationship between financial performance and sustainability reporting in Germany [18], China [30] and Brazil [31]. Especially, examining random GRI 124 reports from 25 countries, Dilling found the positive connection between higher profit margin and G3 sustainability reports [14]. From China context, Liu and Anbumozhi showed that the company’s profitability (measured by ROE) has positive impacts to the extent of environmental investment and pollution control disclosures [30]. In 2017, McGuinness et al. again confirmed that there are contrary relationship between social disclosure ratings and lagged financial performance in this market [32].

Nevertheless, some studies suggest that there is no or weak obvious links between financial performance and sustainability practices. Reverte showed that both profitability and leverage have no influence to CSR disclosure practices in Spanish listed companies [36]. From worldwide context, Prado-Lorenzo et al. found that ROE even have negative impact to gas emission disclosure [34]. Similarly, research of Kuzey and Uyar also discovered irrelevant relationship between profitability, free cash flows, growth opportunities and sustainability reporting practices [28]. Wuttichindanon argue that financial performance (profitability, leverage) is not a significant determinant of CSR disclosure, since stakeholders (including shareholders) can exert their power over the firms to force them to engage in and report on CSR activities regardless their economic status [40].

Due to debatable results on the relationship between financial performance and CSR, sustainability reporting practices, this research does not predict the direction but speculate the existence of the association in Vietnam. This brings to the second hypothesis tested:

**H2**: There is an association between financial performance and sustainability reporting.

**Board gender diversity**

Davies argued that larger proportion of female directors on boards would enhance board’s performance through more active contributions of female NED compared to their male counterparts, conscientious preparation for board meetings and willingness to challenge strategies [11]. Moreover, greater female representation could help the board achieve better corporate governance by monitoring strategy, committing to ethical standards and concerning more on stakeholder issues such as employee, customer satisfaction, sustainable development and corporate social responsibility.

The representation of women on boards could bring diversity due to distinctive values of female directors compared to male directors; they are more stakeholder-oriented than their male
counterparts [2]. Furthermore, greater number of women on boards can positively associate with ethical and social compliance because of female sensitivity towards these matters [24]. Thus creating a legitimate expectation that there would be a relationship between board gender diversity and sustainability reporting practice since diverse boards could increase the transparency and accuracy of financial reports, hence reduce information asymmetry and improve stakeholder engagements [20].

Al-Shaer and Zaman found a significant positive relationship between sustainability reporting quality and board gender diversity measured by five alternatives: number of female directors on boards, percentage of boards’ female directors, number of independent female directors, Shannon index of diversity and Blau index of diversity [4]. By categorising into two groups: small and large sized companies, the paper also discovered that while all board gender diversity measures of the small sized companies were significantly associated with sustainability reporting quality, two measures (number of female directors and number of independent female directors) were significantly associated for large sized firms (although all of them had positive associations with sustainability reporting quality).

The presence of women on boards could help firms become socially responsible by encouraging the adoption of environmentally friendliness and good corporate governance practices [16; 33]. The research also found that gender diversity positively associated with corporate sustainability practices.

Non-executive female directors

The UK’s Higgs report on the role and effectiveness of non-executive directors highlighted the importance of non-executive directors who have no managerial responsibility in assuring boards’ balancing influence and reducing conflicts of interest between principals (shareholders) and their agents (management) [23]. Arguably, non-executive directors are believed to play a key role in challenging and scrutinising the strategy implemented by executive directors due to their wider perspectives. Besides the positive relation of women’s proportion on boards to board’s effectiveness, female directors are likely to have similar impact possessing by independent directors [3]. Al-Shaer and Zaman found a significant positive association of number of independent female directors with sustainability reporting quality. As a result, it is worth to expect that independent and non-executive female directors may require more effort on sustainability practices which eventually benefits shareholders in long-term and in a sustainable way [4].

Female leadership

While the chairman is responsible for leading the board of directors, the chief executive director (CEO) leads the management team. The UK’s Higgs report emphasised the vital role of chairman in ensuring the effectiveness of the whole board as well as individual directors by directing boards’ operation to strategic matters, actively engaging with shareholders, allocating sufficient time for controversial issues discussions [23]. On the other hand, CEO’s roles are more likely to involve in running the business, implementing board’s resolutions, assuring organisational objectives achievement and liaison with stakeholders. Due to these characteristics, it would be a mistake not to address the influence of corporate leadership on companies’ strategies and policies on sustainable development including related public disclosures. McGuinness et al. found that companies led by chairwoman and female CEO tend to have higher corporate social responsibility rating. Furthermore, the effect of female leadership still significantly remained after board gender diversity measures had been controlled [32].

This research is to examine whether board gender diversity influences the quality of sustainability reporting among Vietnamese listed firms. Therefore, the following hypotheses will be tested:

H3a: There is a positive association between board gender diversity and sustainability reporting

H3b: Non-executive female directors have a positive association with sustainability reporting

H3c: Female leadership has a positive relationship with sustainability reporting

3 RESEARCH METHODOLOGY

3.1 Sample and data collection

The primary objective of this study is to identity whether factors hypothesised have any associations with quality of sustainability reports.
As a result, only reports exclusively named ‘sustainability report’ or ‘sustainable development report’ are subject to the assessment. Since sustainability reporting is relatively new in Vietnam, there is no database or statistics about the quantity of published reports nor list of publishing organisations. In order to gather all available sustainability reports, websites and annual reports of all companies listed on two domestic stock exchanges were scanned with relevant key words. The reporting period is for the financial year ended 31 December 2016 (or earlier but not prior to 1 January 2016). Finally, there were 99 companies meeting the requirements. These reports were subsequently analysed through a scoring scheme.

All financial data was retrieved from data stream of Thomson Reuters EIKON (the world’s most popular and comprehensive financial data bank) at financial market simulation room - University of Economics and Law, while non-financial one was collected manually from companies’ annual reports, corporate governance reports, corporations’ websites and Vietstock.com.

3.2 Sustainability reporting scoring scheme and sustainability reporting index

Content analysis has been extensively employed in this research to assess the quality of sustainability reporting. Clarkson, Li, Richardson, and Vasvari adopted GRI guidelines to construct an index to assess environmental disclosures in related reports. Similarly, in this research the construction of a sustainability reporting index is implemented which eventually generates indices facilitating the comparability of sustainability reporting quality across companies. However, before that, a scoring scheme must be applied to calculate scores (which represents quality and completeness) of sustainability reports [9].

Both Clarkson et al. and Dissanayake et al. adopted GRI guidelines for their scoring framework due to its superior characteristics such as international standardised guidelines that can be flexibly applied to various types of organisation through the usage of each reporting indicator [9]; improving the transparency, relevance, completeness, accuracy of sustainability reports; ensuring reports representing a balanced picture regarding different dimensions, etc. Because of these benefits, this study adopts G4 sustainability reporting guidelines as scoring scheme based on reporting indicators to measure reporting practices in Vietnam. Furthermore, some adaptations were brought in to make scoring scheme suitable to Vietnamese corporate reporting practices. The scoring scheme is demonstrated in appendix 1.

Generally, most of companies in the population have sustainability reports included in their annual reports, which are subject to scoring scheme. However, companies who publish stand-alone sustainability reports will have their separate reports marked individually not the ones included in annual reports or integrated reports (as they are often in brief and referred to stand-alone ones). To maintain the comparability and fairness, only information disclosed in sustainability reports is subject to this scoring scheme, which means information referred to elsewhere in annual reports or other reports will be not taken into account even it is mentioned in G4 reference.

In Vietnam, circular 155/2015/TT-BTC issued by Ministry of Finance has its section 6 in appendix 2 guiding the preparation of report on related impact of the company on the environment and society, which is used by many firms (especially SMEs) as a framework to produce sustainability reports. With the purpose of enabling the comparability of sustainability reporting indices across companies’ practices, this research prescribes a minimum disclosure based on reporting requirement of section 6 appendixes 2 with the addition of some indicators (G4-1, G4-18, G4-24, G4-25, G4-26, G4-27, G4-DMAs) that is similar to the way used by Dissanayake et al. (2016). The purpose of the prescription is to provide a fixed number of weights towards the total score in arriving at the index which would establish comparable standards. For example, if a company fulfils fully all prescribed indicators and other indicators (that company chose to disclose), its sustainability reporting index will be 1 (the absolute index); however, if the firm fails to disclose prescribed indicator although it fulfils fully other indicators, its index will be lower than 1. It would be inappropriate to force all companies to disclose all indicators because of the principle-based nature of guidelines with comply or explain practice. That adaptation seems to be fit with Vietnamese current circumstances since it is necessary to have a threshold to evaluate the quality of sustainability reports. These prescribed indicators are present in appendix 2.
Reporting indicators not prescribed in appendix 2 will be treated as ‘voluntary’ or ‘additional’ disclosure which is subject to scoring scheme accordingly with corresponding weights when the company includes them in their reports.

The scoring scheme does differentiate between the important indicators and unimportant ones. Except for prescribed indicators, the ones belonging organisational profile, report’s profile, G4-22 and G4-23 are treated as unimportant since they are usually included in annual reports. The important indicators individually have maximum score of 1 with corresponding weight of 1, while the ones of unimportant indicators are 0.5. Additionally, each indicator is scored differently based on whether it is fully disclosed or partly disclosed or not disclosed with the score of 1, 0.5 and 0 respectively. For example, an indicator is required by guidelines to disclose approach, supporting statistics of each components but the company decided to disclose only its approach or partly necessary figures, the indicator would only receive a score of 0.5 or even 0 if information provided is judged to be irrelevant or not meaningful. The criteria applied would be G4 detailed guidelines and judgement would be used to evaluate the information. This method would reflect the quality and completeness of disclosure.

Following that the sustainability reporting index is determined as below:

\[
I = \frac{\text{Total score } \times 10}{\text{Number of fixed weights } + \text{Number of variable weights}}
\]

Where:
- I represents sustainability reporting index of assessing company
- I represents sustainability reporting index of assessing company
- Number of fixed weights is the number of weights fixed to prescribed indicators (15 for financial services related organisations and 25 for others)
- Number of variable weights is the total of weights of additional indicators disclosed (not prescribed indicators)

These indices represent the quality of sustainability reports and will be used as dependent variable in research models to identify which factors have influence on them. This approach was utilised widely by many studies involving the assessment of reports’ quality [27], which would ensure the comparability across companies and industries (for example financial services related corporations are not required to disclose environmental impact while manufacturers do have to) without significant deviations if absolute scores were used.

3.3 Model and variables

To examine the above hypotheses, we construct the following regression model:

\[
I = \alpha_1 \text{ (Company size) } + \alpha_2 \text{ (financial performance) } + \alpha_3 \text{ (Board gender diversity) } + \alpha_4 \text{ (Female NED) } + \epsilon_i
\]

Where:
- \( I \) is the index of sustainability reports measured by scoring scheme described in 3.2;
- \( \epsilon_i \) is error term

Independent variables in this model are detailed as Table 1.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Variable group</th>
<th>Variable</th>
<th>Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Company size</td>
<td>Lnta</td>
<td>Natural logarithm of total assets, follows previous research of Fuente et al. (2017), Clarkson et al. (2008), Lourenço and Branco (2013).</td>
</tr>
<tr>
<td>H2</td>
<td>Financial performance</td>
<td>Roe</td>
<td>Returns on equity, follows Saeidi, Sofian, Saeidi, Saeidi, and</td>
</tr>
</tbody>
</table>
GPM  Gross profit margin, follows Saeidi et al. (2015).

Lev  Leverage, calculating by debt to equity, follows Fuente et al. (2017), Clarkson et al. (2008), Stanny and Ely (2008), Lourenço and Branco (2013).

H3a  Board gender diversity

Brd_size  Number of board members, follows previous research of Fuente et al. (2017)

P_fmb  Percentage of female director members on board members, follows previous research of Fuente et al. (2017), Al-Shaer and Zaman (2016)

H3b  Female NED

Per_f_NED  Percentage of non-executive female directors over number of board members, follows research of Fuente et al. (2017)

H3c  Female leadership

F_CEO  Dummy variables
1: The company has female CEO
0: Otherwise
This is consistent with research of McGuinness et al. (2017)

Chairwoman  Dummy variables
1: The company has chairwoman
0: Otherwise
This is consistent with research of McGuinness et al. (2017)

Duality  Dummy variables
1: There is duality of chairman/chairwoman and CEO
0: Otherwise
This is consistent with previous research of Fuente et al. (2017)

Control variables  Exp  Dummy variables
1: Companies engage in export activities
0: Otherwise

4 RESEARCH RESULTS AND DISCUSSIONS

Table 2 represents results produced by regression analysis.”

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index</td>
<td>6.64</td>
<td>2.41</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Lnta</td>
<td>14.62</td>
<td>1.68</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td>Exp</td>
<td>0.46</td>
<td>0.50</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Roe</td>
<td>16.06</td>
<td>12.95</td>
<td>-57</td>
<td>53</td>
</tr>
<tr>
<td>Gross margin</td>
<td>29.31</td>
<td>20.97</td>
<td>-13</td>
<td>86</td>
</tr>
<tr>
<td>Leverage</td>
<td>0.65</td>
<td>75.36</td>
<td>0</td>
<td>4.11</td>
</tr>
<tr>
<td>Boardsize</td>
<td>5.92</td>
<td>1.37</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Per_f_NED</td>
<td>54.08</td>
<td>19.48</td>
<td>0</td>
<td>80</td>
</tr>
<tr>
<td>P_fmb</td>
<td>18.26</td>
<td>17.98</td>
<td>0</td>
<td>80</td>
</tr>
<tr>
<td>Chairwoman</td>
<td>0.12</td>
<td>0.33</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ceoduality</td>
<td>0.27</td>
<td>0.45</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Femaleceo</td>
<td>0.14</td>
<td>0.35</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

To identify the bivariate relationship between variables and multicollinearity issue, we analyse
Pearson correlation analysis, which provided in table 3:

### TABLE 3

<table>
<thead>
<tr>
<th>index</th>
<th>Inta</th>
<th>Exp</th>
<th>roe</th>
<th>GPM</th>
<th>Lev</th>
<th>Boardsize</th>
<th>P_F_ned</th>
<th>P_fmb</th>
<th>chairwoman</th>
<th>duality</th>
<th>F_CEO</th>
</tr>
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<tbody>
<tr>
<td>index</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inta</td>
<td>0.42 **</td>
<td>1.00</td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Exp</td>
<td>0.30**</td>
<td>0.14</td>
<td>1.00</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROE</td>
<td>0.20 *</td>
<td>0.11</td>
<td>0.34**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPM</td>
<td>0.30 **</td>
<td>(0.02)</td>
<td>(0.20)</td>
<td>0.12</td>
<td>1.00</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Lev</td>
<td>(0.14)</td>
<td>0.18</td>
<td>0.05</td>
<td>(0.22)*</td>
<td>(0.35)**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boardsize</td>
<td>0.21 *</td>
<td>0.45</td>
<td>(0.00)</td>
<td>0.04</td>
<td>0.04</td>
<td>(0.12)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P_F_NED</td>
<td>0.23*</td>
<td>0.07</td>
<td>(0.06)</td>
<td>0.09</td>
<td>0.33**</td>
<td>(0.19)</td>
<td>0.12</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P_fmb</td>
<td>0.20 *</td>
<td>0.05</td>
<td>0.25</td>
<td>0.10</td>
<td>(0.09)</td>
<td>(0.06)</td>
<td>0.09</td>
<td>(0.10)</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>chairwoman</td>
<td>0.07</td>
<td>(0.01)</td>
<td>0.27</td>
<td>0.16</td>
<td>0.12</td>
<td>(0.06)</td>
<td>0.07</td>
<td>(0.00)</td>
<td>0.51</td>
<td>1.00</td>
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<tr>
<td>ceoduality</td>
<td>(0.00)</td>
<td>(0.05)</td>
<td>0.07</td>
<td>(0.10)</td>
<td>(0.11)</td>
<td>0.13</td>
<td>(0.11)</td>
<td>(0.17)</td>
<td>0.08</td>
<td>0.05</td>
<td>1.00</td>
</tr>
<tr>
<td>F_ceo</td>
<td>0.13</td>
<td>0.04</td>
<td>0.20 *</td>
<td>0.07</td>
<td>(0.03)</td>
<td>(0.04)</td>
<td>0.09</td>
<td>(0.05)</td>
<td>0.40**</td>
<td>0.47**</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Note: **p < 0.01; *p < 0.05

The results show that there is no significant correlation between independent variables.

Simultaneously, to check the severity of multicollinearity. The variance inflation factor (VIF) is employed. All of VIF of variables are under 2, multicollinearity could be reduced to an acceptably low level.

To test heteroscedasticity, we use Breusch-Pagan / Cook-Weisberg test which the results are provided as followed:

Ho: Constant variance
Variables: fitted values of index

\[
\text{chi}_2(1) = 0.63
\]
\[
\text{Prob} > \text{chi}_2 = 0.4284
\]

With p_value > 10%, the results suggests that there is no heteroscedasticity.

Table 4 represents results produced by regression analysis.

### TABLE 4

<table>
<thead>
<tr>
<th>Number of obs</th>
<th>99</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prob &gt; F</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.4494</td>
</tr>
<tr>
<td>Adj R-squared</td>
<td>0.3726</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lnta</td>
<td>0.557</td>
</tr>
<tr>
<td>Exp</td>
<td>1.521</td>
</tr>
<tr>
<td>Roe</td>
<td>(0.002)</td>
</tr>
<tr>
<td>GPM</td>
<td>0.040</td>
</tr>
</tbody>
</table>
**Firm size**

Results from regression model showed that quality of sustainability reporting significantly correlated with firm size, which is consistent with prior studies and confirm H1. Additionally, it is observed that export activities also have positive impact to sustainability reporting quality. This also support the argument of legitimacy theory that companies which have international trading activities would have greater impacts on society and in turn, receive more public scrutiny and pressure.

**Financial performance**

The results discovered associations with sustainability reporting quality with regard to gross profit margin and profit before tax margin, which confirms H2. The relationship is in line with previous studies such as Chen et al., Dilling, Lourenço and Branco, Kansala et al. [8; 14; 31; 27]. It would be sensible to expect that higher gross profit margin could allow companies to have extra resources to undertake and report on sustainability practices without considerable detriment to the bottom lines.

**Board gender diversity**

The results suggest that the proportion of female member on the boards have positive effects on the quality of sustainability reports, which support H3a. The presence of greater proportion of female members on board would make the companies more stakeholders oriented and better aware about sustainable. If they perceive sustainability practice as strategic CSR can benefit economically and financially companies in long-term as well as enhance the ‘corporate citizen’ image and hence reputation, they may be encouraged to produce better sustainability reports as an instrumental to signal the public even when companies are not as good as what they state.

Surprisingly, the result show no significant relationship between the presence of female NED and the quality of sustainability reports, which can not support H3b. This also indicates that chairwoman significantly associates with the indices in a negative manner which contrasts to McGuinnessa et al. (2017). This may partly reflect gender inequality in Vietnam where women’s involvement in business is still largely restricted. Using descriptive analysis, there are only 12 and 14 companies have their chair of board and CEO are women respectively in a total population of 99. Moreover, except for some large companies (VNM, REE), most of these companies are small and medium enterprises. Considering tight constraint of capital, technical and human resources, these companies may have many other urgent priorities in order to survive in the competition with larger ones, which frustrates the efforts in sustainability or CSR reporting. In addition, given their size, their potential impacts on the society may be judged to be little than large companies. As a results, they also receive less scrutiny and expectation from the public compared to large ones, which allows them to fulfil only minimum requirements in voluntary disclosure as prevailing requirements (annual reports regulated by circular 155/TT-BTC).

5 CONCLUSIONS

This research aims at providing some empirical evidence on determinants of sustainability reporting quality in Vietnam. A sample of 99 sustainability reports published by listed companies for the year of 2016 was obtained and further analysed by employing content analysis method to construct sustainability reporting index for each company. The study used a wide range of
variables to examine hypotheses developed.

In general, the quality of sustainability reports published by Vietnamese listed corporations is relatively low with limited amount of disclosure. The results point out that sustainability reporting quality does vary across industry sectors with better than average performers operating in financial services and utilities sector.

With regard to financial performance, the research found that gross profit margin significantly positively associates with sustainability reporting quality which supports the results of previous studies.

The findings suggest that chairwoman characteristic correlates in a negative manner. This would point out some issues relating to gender inequality and some unique traits belonging to Vietnamese business practices. In addition, there is a significant positive association between export status and sustainability reporting quality.

To some extent, the study contributes to the understanding of sustainability and CSR reporting practice which is quite new and limited in Vietnam. Those characteristics and relationships explored could be employed to suggest policies’ development relating to reporting standards or guidelines which are vague, incomprehensive and dispersed at present. This may help improve the quality of information provided to a variety of interested stakeholders which subsequently facilitates them in better decision making. Furthermore, gender inequality would indicate some implications requiring not only policymakers’ but also the whole society’s attention to encourage greater involvement of women in business.

Despite of those contributions, the study has some limitations. Firstly, due to the restriction in reports’ availability, the research was undertaken exclusively for sustainability reports issued for the year of 2016 not a period of time which may result in the findings only reflecting ‘snapshots’ not trends in time, hence a longitudinal research may reveal more significantly meaningful trends. Secondly, only 99 reports met criteria for further analysing which constrained size of samples. In the future, when popularity of sustainability reporting is extended, larger population would increase the reliability and relevance of findings. Prospect researchers can examine whether higher quality of sustainability or CSR reporting could help the company achieve better performance over time and vice versa.

REFERENCES


[14] Dilling, P. F. (2010). Sustainability reporting in a global context: What are the characteristics of corporations that provide high quality sustainability reports—an empirical


Tóm tắt—Nghiên cứu này nhằm xác định các nhân tố ảnh hưởng đến báo cáo phát triển bền vững của các công ty niêm yết tại Việt Nam. Tác giả đã: xây dựng bộ chỉ số đánh giá chất lượng các báo cáo phát triển bền vững; áp dụng bộ chỉ số để đánh giá tất cả các báo cáo phát triển bền vững của các công ty niêm yết tại Việt Nam năm 2016 (99 công ty); xây dựng mô hình hồi quy chỉ ra các nhân tố ảnh hưởng đến báo cáo phát triển bền vững. Kết quả nghiên cứu cho thấy que mã doanh nghiệp, lợi nhuận góp, doanh nghiệp có hoạt động xuất khẩu là các nhân tố ảnh hưởng tích cực đến báo cáo phát triển bền vững.

Từ khóa—Phát triển bền vững, báo cáo phát triển bền vững, GRI, kết quả hoạt động tài chính, các công ty niêm yết, Việt Nam...