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The effects of earning quality on sustainable reports: an empirical study from Vietnam

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ABSTRACT

Sustainable Reports have been specifically concerned by related parties over the period, firstly by researchers in the developed countries and spreading to the developing jurisdictions. The aim of the research is to analyze the impact of the Earning Quality to Sustainable Reports of non-financial firms listed on Vietnam financial market. The authors have used the combining method to measure the Sustainable Reports disclosure level according to the Global Reporting Initiatives 4 (GRI4) standard for 312 enterprises in Vietnam during 2015- 2019. The research result has recognized the positive effect of Earning Quality to Sustainable Reports while measuring Earning Quality via the aspects of earnings management and the stability of earnings. Besides, the research has considered the impact of the state-owned, foreign-owned factors, the audit quality and how the legislation policy relates to Sustainable Reports in interaction with Earning Quality. The result of the study suggests a number of cognitive enhancement recommendations in the Sustainable Reports for Vietnam and similar countries.

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Earnings quality; sustainable report; Vietnam

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1. Introduction

Since 1990s there has been a movement of the public attention, from only on financial statements to the more inclusion of social aspects and environment into the business's reports. The Sustainable Reports (hereafter SR), primarily in the form of a separate sustainability report, is the main platform for the effective announcement of economic, environmental, social and corporate governance of the company, reflecting the positive and negative impacts. It is also thought that the SR is like the non-financial reports which help businesses to ensure information on corporate responsibility to stakeholders (Amran & Haniffa, 2011). It is widely accepted that the Sustainable Reports (hereafter SR) is the only solution to disclosure the financial statements, performance, and sustainable development aspects. Recently, a remarkable number of

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enterprises in developing countries have included social performance into the financial reports (Hahn & Kühnen, 2013).

It is widely said that the Sustainable Reports implementation is new trend in the world today, and is being promoted by large organizations such as the United Nations, the European Union and developed countries like the United State of America, United Kingdom, Germany, etc. as well as large multinational corporations in the world. According to the report of Brundtland presenting at the World Environmental Development Summit in 1987, the Sustainable Report is the development that meets the needs of businesses without affecting the potential development of the future generations. This is considered to be one of the most commonly used and acknowledged concepts.

The Sustainable Reports of the business includes the disclosure of information on the environment, energy, human resource, products and community-related issues (Hackston & Milne, 1996). Vietnam also has many businesses which are aware of the importance of disclosing this information in Sustainable Reports. This information is, for various reasons, published in SR or published in annual reports and in the businesses' website. Through Sustainable Reports, businesses can have greater opportunities in attracting investments capital from socially and environmentally responsible investors, strengthening the creditability of stakeholders in corporations. According to Vietnam Ministry of Finance, the disclosure of information relating to sustainability among listed companies must ensure the sufficient, accuracy and timeliness. The Sustainable Reports is recognized as a means to minimize information asymmetry and thereby help investors to strengthen the supervision role to corporations.

There has been studies about the relationship between Earning Quality (hereafter EQ) and SR, attracting the attention of executives, managers and researchers in many countries around the world. However, despite of various studies, there is the diversity of the research outcomes of the relationship between Earning Quality and Sustainable Reports. For instance, it is evidenced that firms with high Sustainable Reports commitment behave more ethically than those with low sustainability commitment (Gao & Zhang, 2015; Hong & Andersen, 2011; Wang et al., 2018; and Chen et al., 2018), corporate social responsibility would eliminate information asymmetry by high quality reports (Scholtens & Kang, 2013; Wang et al., 2018), or companies with lower Earning Quality often show higher levels of sustainability disclosure (Pyo & Lee, 2013; Souza et al., 2019).

In addition, many other scholars focus on reporting the implementation result of social responsibility in different countries. For instance, in underdeveloped and developing countries, smaller businesses tends to concern mainly about economic growth, the implementation of social responsibility or the inclusion of Sustainable Reports still have certain limitations (Park & Ha, 2020; Timbate & Park, 2018).

Vietnam is one developing country, the sustainability is new and gains little notice among businesses. Bao Viet Corporation is the first business which has been applying GRI standards since 2013. In most recent study, Nguyen et al. (2020) evidence that the Corporate Social Responsibility and Corporate Financial Performance have positively correlative relationship, however, this relation needs more intensive investigation. And at the same time, there has been a very few study about the relationship

between Earnings and Reports of Sustainability. Thus, based on an overview of international studies and in Vietnam, it can be recognized the research gap existed in previous studies, including (i) very few studies on the effect of Earnings Quality on Sustainable Reports; (ii) inconsistency in the studies about the relationship between these two variables. Therefore, expanding the research to investigate the relationship between Earning Quality and Sustainable Reports in Vietnam may be highly potential contribution to general literature. For Vietnam in particular, the research results might help regulation setters and firms' magement for improving business performance and sustainable development. In addition, the paper establishes the underlying ground for further advanced studies in the field of effect of earning quality and sustainable reports.

The rest of of the paper is structured as following: [Section 2](#) is Literature review and theoretical framework; [Section 3](#) is Methodology; [Section 4](#) is Findings; and [Section 5](#) is Conclusion.

2. Literature review and hypotheses

Up to date, there have been numerous studies about the quality of accounting information. Some researches focus on characteristics of good information quality and factors affecting to information quality. Some other studies about manipulation of accounting information presented through financial statements. The information manipulation happens only in under-developed countries, developing countries, and even advanced countries. As an example, in one study about manipulation of accounting information in Romany the authors report that 84% of the Romanian companies uncovered to manipulate accounting information which is presented in financial statements. The authors conclude that the management of earnings is influenced by the rate of commitments of receivables, leading to a fraudulent financial reporting (Safta et al., 2020). Besides, in their study about financial development and standardized reporting, Chousa et al. (2019) report that only high-income developed or emerging countries present a high number of companies committed to apply standardized reporting system, although the conditions which lead to that outcome are not the same.

In more recent research vein, that is sustainability, up to present, there is no unified definition of sustainability report or sustainability development report. According to GRI (2018), the Sustainable Reports helps the process of assisting companies in setting goals, measuring performance, managing change for a sustainable global economy- combining long-term profit with social responsibility and environmental care. The Sustainable Reports, primarily in the form of a separate sustainability report, is the main platform for the effective announcement of economic, environmental, social and corporate governance of the company, reflecting the positive and negative impacts. Researchers think that the SR is like the non-financial reports such as social reports, environmental reports and corporate social responsibility reports. All of which are reports that help businesses ensuring good quality information on corporate responsibility to stakeholders (Amran & Haniffa, 2011).

However, Kolk (2003) argues that the Sustainable Report is a voluntary business activity that aims to provide stakeholders with information on the social and environmental impacts on business operations. The Sustainable Report originates from environmental reporting in combination with social and financial responsibilities, focusing on the performance and future direction of the business. According to Aman, Ismail, & Bakar (2015), the Sustainable Report primarily derives from the expansion of annual reports, which are no longer simply providing financial information, but also providing necessary information for stakeholders.

Based on the research and analysis of many economic theories, including the stakeholders theory (Freeman, 1984) and the legitimacy theory (Suchman, 1995) and the institution theory (Searcy & Buslovich, 2014) suggest that there are different motives behind the establishment of the SR. The most important reason among all is for 'the company's reputation and brand protection' (Brown, Jong & Levy, 2009). Announcing business activities and strategies towards sustainable development will help businesses gain external recognition, credibility from the public and investors about their sustainable development.

About the earning quality, up to date, there are various definitions. According to Healy and Wahlen (1999), the interest in the profit quality in the profit aspect needs to fully reflect the financial activities in the economic situation during the reporting period. Dechow and Schrand (2004) state that Earning Quality is the reflection of present performance and providing the information for future assessment. Based on accounting, the accounting profit quality has four attributes: cumulative quality, sustainability, predictability and stability. Based on the market, there are additional three attributes including the ability to reflect validity, timeliness, and prudence.

Study the relationship between Sustainable Reports and other factors of enterprises have been attracting researchers. The first economic trend is effect of sustainability reporting to firm value. Loh et al. (2017) test how quality of sustainability reporting relates to a firm's market value. Their empirical results report that sustainability reporting is positively related to firm's market value. The authors also add that this relationship depends on business sectors and on the ownership structure. This finding is as same as study conducted by Masud et al. (2018).

The second research vein is factors affecting to corporate sustainability report, Gallego-Álvarez and Ortas (2017) address that different national culture dimensions also affect to corporate sustainability report practices. The authors applied the Stakeholder Theory proposals to explain that the corporate sustainability behaviors are highly sensitive to stakeholders' pressures and demands which are ultimately conditioned by the cultural environment. Similarly, by adopting a multi-country approach to investigate the relationship between countries' institutional environments and firms' sustainability disclosure practices, across six countries in the Southeast Asian region Tran and Beddewela (2020) finds that the nuanced differences in level of sustainability disclosures due to differing legal, normative, and sociocultural systems in engendering greater disclosure and transparency at a national level.

Recently, the research about the interaction between Sustainable Reports and Earning Quality has received significant notice in the area of accounting and management. One of the study veins is the researches showed that firms with high

Sustainability commitment behave more ethically than those with low commitment (Gao & Zhang, 2015; Hong & Andersen, 2011).

Hong and Andersen (2011) and Rezaee and Tuo (2017) evidenced that socially responsible enterprises have higher quality of accruals and less real earning management. Gao and Zhang (2015) evidenced that socially responsible firms would act differently comparing to other companies in relation to earning managements and financial reporting. Chen et al. (2018) believed that the ethical corporate behaviors have the potential to uncover managers from conducting earning manipulation. Scholtens and Kang (2013), Wang et al. (2018), in their studies emphasized that mandatory application of corporate social responsibility would eliminate information asymmetry by high quality reports. Bozzolan et al. (2015), and Muttakin et al. (2015) reported that firms with orientation of implementing the Corporate Social Responsibility are less likely to engage in real earning management (REM) than accrual earning management (AEM).

With the same direction, Wang et al. (2018) and Chen et al. (2018) stated that responsible businesses will restrict the use of profit management, thereby yielding a higher earning quality than the number reported in their financial statements. This result is as similar as the research results conducted by many other authors such as Scholtens and Kang (2013); Bozzolan et al. (2015); Muttakin et al. (2015); Rezaee and Tuo (2017); Timbate and Park (2018); Park & Ha, (2020); Siueia and Wang (2019); Rezaee et al. (2020).

On another study direction, there are studies showing the inverse relationship between Sustainable Reports and accruals Earning Quality with researches by Pyo and Lee (2013), and Souza et al. (2019). These studies show that companies with lower quality of earning often show higher levels of sustainability disclosure. This may be that some companies opportunistically use Sustainable Reports as a tool to change their perceptions of investors while increasing profit management in practice. Kim et al. (2012) believed that it is unethical for businesses to promote investment in Sustainable Reports to hide management profit management strategies. Many others also support Kim et al. (2012) about a positive relationship between Sustainable Reports and Earning Quality (for instance, Hong & Andersen, 2011; Liu et al., 2017). A review of the available documents indicates a clear competition between the two aspects. In this case, Liu et al. (2017) suggests that researchers in this area should consider factors that could better explain the nature of the relationship between report of sustainability and quality of earnings.

In the study of Martínez-Ferrero et al. (2015), it has examined the relationship between the quality of information disclosed in financial statements and the quality of information in Sustainable Reports information. The research has used a sample of 747 internationally listed non-financial companies during 2002-2010. The authors used the Tobit method for table data and show that when measuring the quality of financial statements based on the prudence, cumulative quality and profit management, the results show that the financial statement quality is positively related to the quality of the sustainability report.

In short, we found that the research on the influence of Earning Quality on Sustainability Reports is still rare, except for the study of Martínez-Ferrero et al.

(2015) conducted for multinational companies in developed countries during the 2002-2010 period. Therefore, to expand and supplement, as well as provide empirical results on the direction of studying the effect of Earning Quality on Sustainability Reports in a developing country like Vietnam would bring significant contribution to the literature. Based on the theories, the review of the study with the arguments and the real results on the relationship between earnings and sustainability, we have formulated the following research hypothesis:

Hypothesis: The Earning Quality has positive effect on Sustainable Reports

3. Research methodology

Based on the overview of studies and research hypotheses, the paper constructs and proposes the following models:

Model 1:

$$SR_{it} = \beta_0 + \beta_1 EQ_EM_{it} + \beta_2 SIZE_{it} + \beta_3 LV_{it} + \beta_4 ROA_{it} + \beta_5 GROWT_{it} + \varepsilon_{it}$$

Model 2:

$$SR_{it} = \beta_0 + \beta_1 EQ_SM_{it} + \beta_2 SIZE_{it} + \beta_3 LV_{it} + \beta_4 ROA_{it} + \beta_5 GROWT_{it} + \varepsilon_{it}$$

Where:

SR:Sustainable Report

EQ_EM:Earning quality measured by equity management

EQ_SM:Earning quality measured by stability of earnings

SIZE:Firm's size

LV:Financial leverage

ROA:Return on asset

GROWT:Firm growth

For dependent variables, in this model we measure Sustainability Reports by using indicators in the GRI4 standard (Table 1). The Sustainability Reports take value from 1 to 5 depending on the disclosure level according to GRI4 guidelines. Specifically, at the highest level, if one firm releases the sustainable report and annual report with full sustainable indicators from GRI4 it will get 5 points. At lower level, firm will get 4 points if it discloses almost full sustainable indicators from GRI4, 3 points if firm discloses almost sustainable indicators from GRI4 but do not follow GRI4. Firm receives 2 points if few indicators are reported, and firm will get 1 point if it does not report sustainable indicators.

We measure Sustainability Reports according to GRI4 because the criteria in the GRI Sustainability Reporting Standards is more convenient, transparent, and efficient for businesses to prepare the reports. The GRI standard is structured clearly and easily understanding with (4) the main content being (1) GRI 101 General information (2) GRI 200 Economic issues (3) GRI 300 Social issues (4) GRI 400 Environmental problems. This structure enables businesses to see, understand and follow. The criteria are described clearly with specific scope and easily language transmission. The set of standards can be used flexibly, companies can use the direction of "full

compliance" or "partial compliance" with the key contents of the Standard. Indicators draw from GRI 4 guidelines include:

- Common criteria for Sustainable Report (acronym for SR_GRI.1). This group of criteria include 47 items.
- Economic indicators for Sustainable Report (SR_GRI.2). These include 13 items represented for this aspect.
- Environmental indicators for Sustainable Report (SR_GRI.3). This group includes 30 items, and
- Social indicators for Sustainable Report (SR_GRI.4). This group encompasses 33 items representing for social aspect.

For independent variables, this study measures Earning Quality in terms of earning management and earning stability, specifically:

3.1. Earning quality measured by earning management

The earning quality measured by earning management is defined as EQ_EM. The earning management will be the residual of ε_{it} of the following Jone model (1991). This work has been applied by many previous authors (For instance, Larcker & Richardson, 2004; Stubben, 2010; Bešlić et al., 2015).

$$NDA_{it} = \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} + \alpha_3 \frac{PPE_{it}}{A_{it-1}} + \varepsilon_{it}$$

Where:

NDA_{it} is non disrectionary accruals

ΔREV_{it} is the difference between the revenue of firm i in year t and year t-1

ΔREC_{it} is the difference between account receivable of firm i, year t and year t-1

PPE_{it} is the historical cost of the firm's fixed assets i year t

A_{it-1} is total assets of firm i at year t-1

$\alpha_1, \alpha_2, \alpha_3,$ are the parameters of each firm

Because of opposite relationship between earning quality and earning management. It means the higher the ε_{it} deviation, the lower the Earning Quality. Thus, the Earning Quality proxying by EM is calculated as $EQ_EM = EM^*(-1)$.

3.2. Earning quality is measured by the stability of earnings

The quality of earnings mentioned in this study is the ability of enterprises manipulate profit information in their financial statements. Specifically, according to Bigus and Häfele (2018), the profit of an enterprise should have fluctuated when its operating cash flow fluctuated. Therefore, in one specific firm which has sharp fluctuation of the operating cash flow meanwhile there is less volatile earning evidencing a sign of the earnings manipulation in its financial statements. The authors estimated the standard deviation of earnings and the standard deviation of the operating cash flow rate.

$$SMOOTH_{it} = \frac{\sigma(EARN_{it})}{\sigma(CFO_{it})}$$

The standard deviation of earnings and operating cash flow represent the earnings volatility and the cash flows volatility. The ratio of the volatility of earnings to the change of cash flow implies how many times the volatility of earnings are generated by one the cash flows fluctuation. The smaller the percentage, the less the change in earnings, it means that there is high chance that the business' earnings be manipulated. The Earnings Quality variable measuring by earning stability is defined as $EQ_SM = SMOOTH^*(-1)$ (Francis et al., 2004; Leuz et al., 2003).

In addition to current variables in the original Model 1 and Model 2, we will examine the effects of some other typically Vietnamese characteristics on Sustainability Reports. These dummy variables encompass state ownership, foreign ownership, audit quality, and legal factors.

Based on the research overview and underlying theories mentioned above, the variables of the model are summarized in Table 2 below.

In this study, the paper randomly collected the research data from 312 non-financial enterprises (among 780) listed on Vietnam stock market in 5 years from 2015-2019. Selected companies encompass manufacturing, trading, construction, services companies, etc. The paper does not take into account the financial companies or institutions because of different business types and accounting regulations for such enterprises comparing to non-financial companies. By Securities Law of Vietnam listing firms must satisfy listing numerous conditions about firm's size (total assets more than VND80 billions), liabilities, profitability, number of employees (more than 300 ones). These characteristics ensure the comparability of firms in the research sample. With 312 firms for 5-year data period, meaning that there are 1,560 observations. The data after collection is calculated into variables in accordance with research requirements by Excel. The final step involves the calculated variables be stored, analyzed and tested through STATA 14. We use GLS regression to differentiate the variance change and also the GMM to overcome endogeneity.

4. Results and discussions

The description Table 3 shows that, among the surveyed enterprises, the average sustainability disclosure of enterprises was 25.4%, of which the lowest was 1% and the highest was 97%, the standard deviation was 21%. Thus, the level of sustainable publication of businesses listed on the Vietnamese stock market is still relatively low comparing to requirements. Earning Quality is measured in terms of average earnings management aspect (EQ_EM) as -0.195 , and of the measurement of earning stability (EQ_EM) is -0.031 . The business size is measured by total asset value after being logarithm with the average value of 28.08, the average financial leverage ratio (LV-Liabilities to total assets) of the business is 49.9%, the earnings of after-tax profit on total annual assets is 6.2% and the annual growth rate of revenue is 25.1%.

Table 4 shows the correlation coefficients between the variables, the purpose of checking the correlation between the independent and dependent variables to

Table 1. List of indicators taken from GRI4.

No.	Code	Item Name	No.	Code	Item Name
1	G102-1	Name of the organization	63	G301-3	Reclaimed products and their packaging materials
2	G102-2	Activities, brands, products, and services	64	G302-1	Energy consumption within the organization
3	G102-3	Location of headquarters	65	G302-2	Energy consumption outside of the organization
4	G102-4	Location of operations	66	G302-3	Energy intensity
5	G102-5	Ownership and legal form	67	G302-4	Reduction of energy consumption
6	G102-6	Markets served	68	G302-5	Reductions in energy requirements of products and services
7	G102-7	Scale of the organization	69	G303-1	Water withdrawal by source
8	G102-8	Information on employees and other workers	70	G303-2	Water sources significantly affected by withdrawal of water
9	G102-9	Supply chain	71	G303-3	Water recycled and reused
10	G102-10	Significant changes to the organization and its supply chain	72	G304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas
11	G102-11	Precautionary Principle or approach	73	G304-2	Significant impacts of activities, products, and services on biodiversity
12	G102-13	Membership of associations	74	G304-3	Habitats protected or restored
13	G102-14	Statement from senior decision-maker	75	G304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations
14	G102-15	Key impacts, risks, and opportunities	76	G305-1	Direct (Scope 1) GHG emissions
15	G102-18	Governance structure	77	G305-2	Energy indirect (Scope 2) GHG emissions
16	G102-19	Delegating authority	78	G305-3	Other indirect (Scope 3) GHG emissions
17	G102-20	Executive-level responsibility for economic, environmental, and social topics	79	G305-4	GHG emissions intensity
18	G102-21	Consulting stakeholders on economic, environmental, and social topics	80	G305-5	Reduction of GHG emissions
19	G102-22	Composition of the highest governance body and its committees	81	G305-6	Emissions of ozone-depleting substances (ODS)
20	G102-23	Chair of the highest governance body	82	G305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions
21	G102-24	Nominating and selecting the highest governance body	83	G306-1	Water discharge by quality and destination
22	G102-26	Role of highest governance body in setting purpose, values, and strategy	84	G306-2	Waste by type and disposal method
23	G102-27	Collective knowledge of highest governance body	85	G306-3	Significant spills
24	G102-28	Evaluating the highest governance body's performance	86	G306-4	Transport of hazardous waste

(continued)

Table 1. Continued.

No.	Code	Item Name	No.	Code	Item Name
25	G102-29	Identifying and managing economic, environmental, and social impacts	87	G306-5	Water bodies affected by water discharges and/or runoff
26	G102-30	Effectiveness of risk management processes	88	G307-1	Non-compliance with environmental laws and regulations
27	G102-31	Review of economic, environmental, and social topics	89	G308-1	New suppliers that were screened using environmental criteria
28	G102-32	Highest governance body's role in sustainability reporting	90	G308-2	Negative environmental impacts in the supply chain and actions taken
29	G102-33	Communicating critical concerns	91	G401-1	New employee hires and employee turnover
30	G102-35	Remuneration policies	92	G401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees
31	G102-36	Process for determining remuneration	93	G401-3	Parental leave
32	G102-37	Stakeholders' involvement in remuneration	94	G402-1	Minimum notice periods regarding operational changes
33	G102-38	Annual total compensation ratio	95	G403-1	Workers representation in formal joint management-worker health and safety committees
34	G102-39	Percentage increase in annual total compensation ratio	96	G403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities
35	G102-40	List of stakeholder groups	97	G403-3	Workers with high incidence or high risk of diseases related to their occupation
36	G102-41	Collective bargaining agreements	98	G403-4	Health and safety topics covered in formal agreements with trade unions
37	G102-43	Approach to stakeholder engagement	99	G404-1	Average hours of training per year per employee
38	G102-44	Key topics and concerns raised	100	G404-2	Programs for upgrading employee skills and transition assistance programs
39	G102-45	Entities included in the consolidated financial statements	101	G404-3	Percentage of employees receiving regular performance and career development reviews
40	G102-46	Defining report content and topic Boundaries	102	G405-1	Diversity of governance bodies and employees
41	G102-48	Restatements of information	103	G405-2	Ratio of basic salary and remuneration of women to men
42	G102-52	Reporting cycle	104	G406-1	Incidents of discrimination and corrective actions taken
43	G102-53	Contact point for questions regarding the report	105	G407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk
44	G102-54	Claims of reporting in accordance with the GRI Standards	106	G408-1	Operations and suppliers at significant risk for incidents of child labor
45	G102-55	GRI content index	107	G409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor
46	G102-56	External assurance	108	G410-1	Security personnel trained in human rights policies or procedures

(continued)

Table 1. Continued.

No.	Code	Item Name	No.	Code	Item Name
47	G103-1	Explanation of the material topic and its Boundary	109	G411-1	Incidents of violations involving rights of indigenous peoples
48	G201-1	Direct economic value generated and distributed	110	G412-1	Operations that have been subject to human rights reviews or impact assessments
49	G201-2	Financial implications and other risks and opportunities due to climate change	111	G412-2	Employee training on human rights policies or procedures
50	G201-3	Defined benefit plan obligations and other retirement plans	112	G412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening
51	G201-4	Financial assistance received from government	113	G413-1	Operations with local community engagement, impact assessments, and development programs
52	G202-1	Ratios of standard entry level wage by gender compared to local minimum wage	114	G413-2	Operations with significant actual and potential negative impacts on local communities
53	G202-2	Proportion of senior management hired from the local community	115	G414-1	New suppliers that were screened using social criteria
54	G203-1	Infrastructure investments and services supported	116	G414-2	Negative social impacts in the supply chain and actions taken
55	G203-2	Significant indirect economic impacts	117	G416-1	Assessment of the health and safety impacts of product and service categories
56	G204-1	Proportion of spending on local suppliers	118	G416-2	Incidents of non-compliance concerning the health and safety impacts of products and services
57	G205-1	Operations assessed for risks related to corruption	119	G417-1	Requirements for product and service information and labeling
58	G205-2	Communication and training about anti-corruption policies and procedures	120	G417-2	Incidents of non-compliance concerning product and service information and labeling
59	G205-3	Confirmed incidents of corruption and actions taken	121	G417-3	Incidents of non-compliance concerning marketing communications
60	G206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	122	G418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data
61	G301-1	Materials used by weight or volume	123	G419-1	Non-compliance with laws and regulations in the social and economic area
62	G301-2	Recycled input materials used			

(Source: UNOPS Sustainability Report 2018).

Table 2. Summary of variables in the model.

Name	Code	Measurement	Expectation
Dependent variables			
Sustainable Report	SR	Take value from 1 to 5 depending to disclosure level according to GRI4 guidelines	
Independent variables			
Earning quality	EQ_EM	Earning management	+
	EQ_SM	Earning stability	+
Controlling variables			
Firm size	SIZE	Ln of total assets (LnTS)	+
Financial leverage	LV	Total debts/Total assets	-
Profitability	ROA	Net profit/Average total assets	+
Growth rate	GROWT	Growth of revenues	+/-
State ownership	STATE	1 if state ownership is greater than industry average 0 if state ownership is less than industry average	-
Foreign ownership	FOR	1 if foreign ownership is greater than average 0 if foreign ownership is less than average	+
Audit quality	AUDIT	1 if firm is audited by big 4 0 if firm is not audited by big 4	+
Legislation	LAW	1 if SR prepared in 2017 0 if SR prepared in 2016	+

(Source: authors proposal).

Table 3. Statistical description.

Variable	Obs.	Mean	Std.Dev	Min	Max
SR	1560	0.254	0.210	0.010	0.970
EQ_EM	1560	-0.195	0.315	-8.783	0.000
EQ_SM	1560	-0.031	0.063	-1.332	0.000
SIZE	1560	28.083	1.590	23.470	34.938
LV	1560	0.499	0.226	0.003	2.031
ROA	1560	0.062	0.090	-1.693	0.784
GROWT	1560	0.251	2.426	-1.000	74.602

(Source: Data analyzed by STATA 14).

eliminate factors that may lead to multi-collinearity before running regression. The correlation coefficient between the independent variables in the model doesn't exist any pair with an absolute value greater than 0.8. Therefore, when using regression model, it will be less likely to occur multi-collinear phenomena.

In both research models in [table 5](#), we consider the effect of Earning Quality on Sustainable Reports. The results of the study in [Table 5](#) show that Earning Quality measured in different aspects has a positive effect on Sustainable Reports, with a statistical significance level of 1%, so the Hypothesis is accepted. The results of this research are consistent with the research of Martínez-Ferrero et al. (2015), Hong and Andersen (2011) and Rezaee and Tuo (2017) who evidenced that the firms which have higher quality of accruals and less real earning management will lead to higher socially responsible enterprises. This findings are also in line with the views of the Legitimacy theory and the Stakeholder theory. When considering control variables, the results show that the factors of scale and profitability have a positive effect on Sustainable Reports, whereas financial leverage has the opposite effect with both Sustainable Reports with significance level of 1%. Meanwhile, revenue growth does not affect to reports of sustainability.

[Table 6](#) presents the study results of the effect of Earning Quality on Sustainable Reports when adding factors with particularities in developing countries in Vietnam.

Table 4. Correlation matrix.

	SR	EQ_SM	EQ_EM	SIZE	LV	ROA	GROWT
SR	1						
EQ_SM	0.0879*	1					
EQ_EM	0.0718*	0.5558*	1				
SIZE	0.3771*	0.0895*	0.0970*	1			
LV	-0.0099	0.1313*	0.0757*	0.3754*	1		
ROA	0.1034*	-0.0894*	-0.0313	-0.0808*	-0.4491*	1	
GROWT	-0.0163	-0.1148*	-0.3441*	0.0151	-0.0295	0.0028	1

(Source: Data analyzed by STATA 14).

Table 5. Regression results about the effect of earning quality on sustainable reports.

	GLS		GMM	
	Model 1	Model 2	Model 1	Model 2
EQ_EM	0.0309**		0.0198**	
EQ_SM		0.256***		0.284***
SIZE	0.0603***	0.0603***	0.0700***	0.0688***
LV	-0.134***	-0.141***	-0.238***	-0.250***
ROA	0.169***	0.172***	0.123*	0.178**
GROWT	-0.000625	-0.0013	-0.00118	-0.00137
_cons	-1.380***	-1.377***	-1.623***	-1.585***
N	1560	1560	1560	1560
Wald chi2(5)	315.54	72.36		
Prob > chi2	0.0000	0.0000		
AR(2)			0.923	0.946
Hansen test			0.279	0.444

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

(Source: Data analyzed by STATA 14).

For the state ownership factor, the results show that state ownership is inversely related to the sustainability disclosure level in both model 1 and model 2. When considering the state ownership interaction variable and the Earning Quality, it shows that this variable has an opposite effect on Sustainable Reports in model 2. Thus, there is evidence of difference between the state ownership rate in Earning Quality and the influence on Sustainable Reports. As for the ratio of foreign ownership ratio, for model 1, it shows that foreign ownership and the marginal interaction of foreign ownership and the quality of earnings are positively correlated with Sustainable Reports, but not at statistical significance. Meanwhile in model 2, the foreign ownership interaction variable and Earning Quality are positively related to Sustainable Reports.

The audit quality, shown by the financial statements made by Big4 auditing companies, research results (Table 6) has found that audit quality has a positive effect on Sustainable Reports. Thus, for Big 4 auditing companies, the global audit system, and the Sustainable Reports advisory system, there have been positive effects on the businesses audited by Big 4. When considering the interaction variable between audit quality and Earning Quality, the audit quality has a positive effect on Sustainable Reports.

Since Circular No. 155/2015/TT-BTC promulgated in 2015 by Vietnamese government, the listed companies' sustainability reports have seen significant growth, but the impact of the policy will have certain latency, usually 1-2 years. The research results show that the role of legal policy has a certain influence on SR publication. In Table 6, the legal factor (LAW) is positively related to the Sustainable Reports, whereas when considering the legal factor interacting with the Earning Quality, this

Table 6. Regression results about the effect of Earning Quality on Sustainable Reports with supplement dummy variables.

	GMM							
	Model 1				Model 2			
EQ_EM	0.0244**	0.0171**	0.0216**	0.0196*				
EQ_SM					0.322**	0.214**	0.221**	0.336**
STATE	-0.0280*				-0.0336**			
EQ_EM*STATE	-0.0345				-0.352**			
FOR		0.0133				0.0198		
EQ_EM*FOR		0.0103				0.419**		
AUDIT			0.0526**				0.0649**	
EQ_EM*AUDIT			-0.0099				0.386**	
LAW				0.116**				0.113**
EQ_EM*LAW				0.0146				0.0826
SIZE	0.0687**	0.0673**	0.0614**	0.0716**	0.0678**	0.0662**	0.0592**	0.0706**
LV	-0.231**	-0.224**	-0.231**	-0.165**	-0.243**	-0.244**	-0.239**	-0.175**
ROA	0.147**	0.0973	0.0883	0.238**	0.196**	0.133*	0.159**	0.323**
GROWT	-0.0017	-0.0013	-0.0008	0.0004	0.0004	-0.0013	-0.0015*	0.0004
_cons	-1.582**	-1.557**	-1.401**	-1.750**	-1.549**	-1.519**	-1.341**	-1.719**
N	1560	1560	1560	1560	1560	1560	1560	1560
AR(2)	0.691	0.357	0.29	0.984	0.916	0.877	0.789	0.137
Hansen test	0.219	0.315	0.356	0.652	0.243	0.273	0.389	0.774

* $p < 0.1$, ** $p < 0.05$.

(Source: Data analyzed and drawn by using STATA 14).

interaction variable has a positive relationship to the Sustainable Reports, but no intended statistical significance.

5. Conclusions

Suggett and Goodsir (2002) in their study have evidenced the three important characteristics of sustainability, including accountability towards stakeholders; the economic prosperity, social well-being with improved environmental quality; and a performance evaluation and reporting system based on economic, environmental, and social performance. Most of the sustainable development initiatives have been developed by isolating the business activities and not have any direct linkage with its strategy (Yadava & Sinha, 2016).

Kumar and Das (2018) have analysed for companies in the five emerging economies and evidenced that the sustainability reports practices on economic parameter were more compressive rather than environmental and social aspects. All key performances indicators of economic aspect scored well, whereas the score of performance parameter on rest two dimensions was not up-to mark. Thus, it is inferred that these companies were inefficient in social and environmental dimension or there might be the case of earning management for financial indicators.

From the above research results, the study confirms the positive impact of Earning Quality on Sustainable Reports when measuring Earning Quality in terms of earnings management and earnings stability. This finding is similar to the previous studies, such as Kim et al. (2012), Hong and Andersen (2011); Liu et al. (2017); Wang et al. (2018) and Chen et al. (2018). In addition, corporate governance factors such as state ownership, foreign ownership, audit quality and legal policies are factors also affect to Sustainable Reports practices.

Therefore, the application of sustainability report is very necessary for business organizations in the process of integration with the international market because it benefits both organizations and society, especially increases the competitiveness of listed companies themselves. Therefore, from now on, there should be actions and policies to facilitate organizations (listed companies) to participate in Sustainable Reports. Based on practical results, this study proposes some recommendations to improve Sustainable Reports practice in Vietnam and other countries which have similar conditions:

The first is for the firms. The enterprises need to formulate a long-term strategy to apply Sustainable Reports with appropriate steps in different stages. Implementing Sustainable Reports in the full and real sense is not a simple issue and hard for most companies to be in the immediate ability to implement, because of limited awareness, resources including highly qualified financial, technical and human resources. Enterprises need to raise awareness about Sustainable Reports and the benefits that Sustainable Reports brings to organizations. Increasing awareness of Sustainable Reports must start from the heads of companies or managers because their vision and decisions have a great influence on both the business strategy and the performance of the organization.

The second is for the investors. They should aware that the positive effect of Earning Quality on the Sustainable Reports. It means that, in making decisions, the investors should choose the ones which have not only high earnings but also the ones which disclose complete sustainability reports.

The third is for the government. This study has provided the evidences of the positive effect of Earning Quality on Sustainable Reports, thus government should set regulations aiming to make higher quality of earning. Consequently, the listed companies will become more involved in disclose sustainability reports.

In an emerging country like Vietnam, the organization's announcement of Sustainable Reports to stakeholders (domestic and foreign investors, authorities, local authorities, consumers, etc.) is still mainly voluntary and does not follow any general standard (other than GRI4 guidelines), only large-scale companies prepare Sustainable Reports and the number of companies making Sustainable Reports reports is very small. However, the practical results of the study show that when listed companies announce Sustainable Reports in their annual reports or in separate sustainability reports to stakeholders it not only makes Earning Quality better but also contributes to improving the brand, raising the loyalty of employees towards the organization as well as the loyalty and trust of the community and consumers for the company's production and business activities.

In emerging countries, the government should continue to focus on improving and enhancing the legal system aiming to create a solid legal basis for the implementation of the Sustainable Reports. This is because the legal system will be the framework for organizations to conduct business activities and to implement Sustainable Reports. In developing countries, however, the legal framework still consists of many shortcomings and inadequacies that would enable organizations to take advantage of legal gaps to avoid ethical obligations and Sustainable Reports. In addition, the governments should consider the ownership type of firms in setting regulations related to sustainability disclose.

After all, despite of findings, we are aware that the paper may contain potential drawbacks. The paper does not contain the effect of Sustainable Reports on Earning Quality or the effect of Sustainable Reports on firm value or share price. The paper might also have shortage of qualitative variables and factors, measurements of Sustainable Reports components, earning management and Sustainable Reports, etc. These issues might be potential research gap for researchers to fill in the future.

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