SUSTAINABILITY MEASUREMENT INDICATORS AND CORRELATIONS BETWEEN PERFORMANCE INDICATORS AND SUSTAINABILITY INFORMATION DISCLOSURE: CASES OF LISTED COMPANIES IN VIET NAM

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Abstract

Purpose -The article presents indicators to measure the sustainable development of enterprises in terms of economy, society and environment; evaluates the correlations between effective factors such as ROE, ROA, PE, EPS, market capitalization and the disclosure of information on the sustainable development of enterprises. We aim to provide a theoretical basis for solving practical accounting-related problems in larger organizations and society. We also hope to complement the purely theoretical research on methods of assessing economic, social and environmental impacts. The article presents the essence of applied accounting research that is contextualized with relevant practical implications and contributes to the theoretical understanding towards sustainable development.

Methodology – The article surveyed 195 enterprises with ROA, ROE, EPS, PE, market capitalization indexes to test the correlations between these factors and the disclosure of business sustainability information using STATA software. The article also analyzes 92 sustainability reports of 92 enterprises to evaluate and score the disclosure of sustainable development information according to socio-economic-environmental indicators. We gave 47 items in 3 categories of economy-society-environment to conduct the scoring of the disclosure of 92 reports. To quantitatively measure the level of corporate environmental disclosure, a binary procedure known as the performance rating system was used to measure the reporting score (RS). Scores of one (1) are awarded if an item is reported; otherwise zero (0) has been awarded.

Findings – The article has concluded that the factors of ROA, ROE, EPS, market capitalization are correlated with the disclosure of information on the sustainable development of enterprises. At the same time, by performing multiple regression, the paper has measured the impacts of each of the above factors on the publication of sustainable development information. The article also summarizes the system of measurement indicators according to economic, social and environmental aspects on both qualitative and quantitative indicators.

Research limitations: The article only researches for manufacturing enterprises that have been listed on Vietnam's stock market

Practical implications – The article has drawn conclusions about the influences of performance indicators such as ROA, ROE, EPS, market capitalization on the disclosure of accounting-social-environmental information of enterprises, the impacts of business activities on the environment, society, jobs, customers, etc.

Originality/value –The article adds to the theoretical basis of measuring indicators for the sustainable development of enterprises in terms of socio-economic-environment; provides a theoretical basis for methods of assessing environmental and social impacts of enterprises from the point of view of sustainable development.

Keywords - Environmental performance indicators, economic performance indicators, social performance indicators, sustainability performance indicators

Paper type - Research paper

1. Introduction

The performance measurement system in today's business environment is greatly different from it was in the past. Given the increasingly dynamic nature of business, under the impacts of globalization, an organization's performance measurement system requires a multidimensional approach. To provide managers with adequate information to remain competitive, an organization must measure all socioeconomic-environmental dimensions. In the past, traditional organizational performance measurement systems only measured the financial aspect, but now organizations must take a different approach to measuring performance. It is a multi-dimensional, integrated performance measurement system linked to the organization's strategy.

Traditional performance measures can no longer capture the changing nature of the business operating environment in today's economy (Fiskel, J. 1994). Consequently, some researchers have directed considerable efforts to the development of performance measurement systems (Kaplan and Norton 1993, 1996, 2000; Olve et al., 1999; Franco-Santos and Bourne, 2005). According to them, pressure from domestic and global competitors, demand for quality and reliable products from customers, high expectations from stakeholders and the use of advanced manufacturing technology act as a great impetus to design and implement a good environmental performance measurement system. Factors that affect performance measurement systems include organizational strategy, organizational structure, and environmental uncertainty, etc. These factors play an important role in efficiency and operations of an organization. It is

important for the organization to consider these factors when developing a performance measurement system. The elements necessary to develop a well-functioning performance measurement system are also the driving force for improving the performance of the business.

The article presents indicators to measure the sustainable development of enterprises in terms of economy, society and environment; evaluates the correlations between effective factors such as ROE, ROA, PE, EPS, market capitalization and the disclosure of information on the sustainable development of enterprises. We aim to provide a theoretical basis for solving practical accounting-related problems in larger organizations and society. We also expect to complement the purely theoretical research on methods of assessing economic, social and environmental impacts. The article presents the essence of applied accounting research that is contextualized with relevant practical implications and contributes to the theoretical understanding towards sustainable development.

Objective of the study

This research paper is divided into two parts. The first part examines the literature related to the development of measurement tools and indicators to measure the sustainability of enterprises on three economic, social, and environmental dimensions. The second part studies the correlations between some performance indicators of enterprises such as ROA, ROE, EPS to see if they affect the disclosure of socio-economic information. To answer this question, we used STATA software to test the correlations of the model and performed multiple regression to evaluate the influences of each of the above factors on the publication of sustainable development information of the enterprise. The study of the 92 Sustainability Report also aims to summarize the presentation of sustainable development indicators of each enterprise by scoring each item presented.

2. Literature reviews

Evolution of performance measurement

The performance measurement system is an important issue that started to draw the attention of accounting researchers in the 1960s. At this time, researchers developed a traditional management accounting system focusing on tools such as traditional budgeting, cost analysis, and the Cost-Volume-Profit relationship. These tools have the primary goal of monitoring an organization's costs. In his study, Shaw, A et al., (1999) argued that the traditional idea of a performance measurement system is a means of maintaining control of the organization. The globalization has increased the competition between domestic and international companies, the business environment has become more and more complex, the traditional management accounting system does not provide sufficient useful information in the realization of

organizational goals, decision making, planning and control (Haines, R. 1993). The traditional model, with a performance measurement system focusing on maximizing shareholder wealth, focuses on metrics such as earnings per share (EPS), return on investment (ROI), etc. and this is not enough. The time has come for a different performance measurement system that focuses not only on monitoring and controlling costs, but also on providing timely remediation, encouraging cross-functional decision-making, and working out strategic issues (Serageldin, I. 1996). An organization's performance measurement system should include both financial and non-financial indicators to cater to complex and dynamic business operations to get a complete picture of the organization's performance in the new millennium. Companies should link their operations to the strategic measurement system of the organization and at the same time should monitor whether customer needs are being met, and whether the organization has its costs under control. Figure 1 shows the evolution of performance measurement.

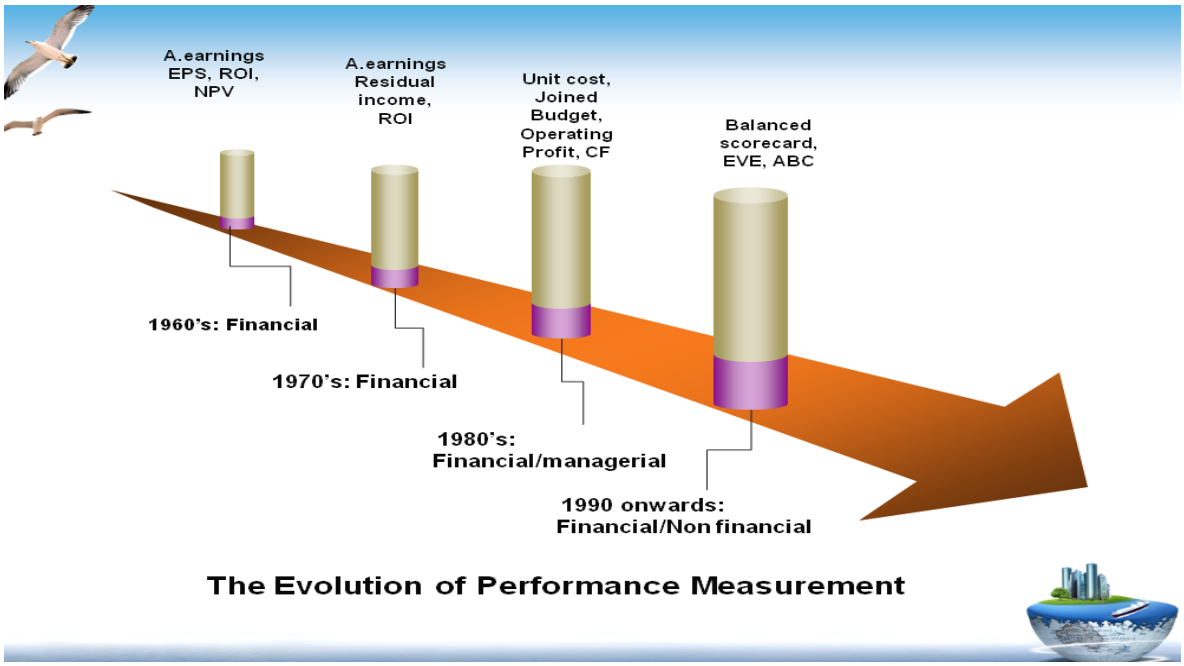

Figure 1 - Evolution of performance measurement

3. Theoretical framework of research

What economic indicators are businesses interested in?

Perspectives of stakeholders and the business itself

Aspects of economic performance and related indicators can be classified in a number of ways. McPhail, K & Davy, A, (2018) stated that *the economic point can be viewed from the stakeholders.* For example, stakeholders will be primarily interested in the financial or non-

financial metrics of a given strategy. Different stakeholder groups will be interested in certain types of indicators. Indicators of economic activity are often used by a company for the purpose of demonstrating performance towards its economic goals as a decision making tool. Therefore, the main stakeholders for these types of indices are the company itself and related stakeholders such as shareholders, investors, lenders, etc. From another point, Lai, A. Melloni, G. & Stacchezzini, R. (2013 believed that *when assessing the sustainability of an enterprise from an economic view, it must come from the interests of the business itself.* When choosing the economic indicators of the company, it is necessary to strike a balance which can reflect different aspects of economic performance. Economic indicators can be divided into (ENDS 2000): Financial activities, competitive advantage, service quality, dynamism, use of resources, innovation.

In addition, in the context of sustainable development, society is also interested in the economic impacts of a company's operations from the point of view of other stakeholders such as local communities, local businesses, supply chains, and governments. These indicators may include (Cormier, D., Magnan, M., and Morard, B. 2013):

• Employment impacts of companies or locations: This group focuses on the employment impacts of a company's business, for example, numbers primary employment, secondary employment, wage rates and the effects of equity.

• Economic impacts of a company or location: This group includes direct local and national economic impacts resulting from a company's business. It includes, for example, opportunities for supply chains, local economic impact, tax collection and corporate social investment.

The proposed economic performance indicator framework uses the following categories, such as the profit, investments, tangible assets, wages and benefits, labor productivity, taxes, community development (includes employment and philanthropy), suppliers, products and services.

The framework therefore includes conventional measures of economic activity (profit, investment, tangible assets, labor productivity) and also includes impacts on external stakeholders, conventional boundaries (taxes paid to tax authorities, community development, economic issues and impacts related to the use of key products and services)

Financial and non-financial perspectives

Financial performance and competitive advantage represent the economic success of the company's chosen strategy while the remaining 4 factors determine its success in competition. In particular, dynamism and innovation leading to better financial performance will be reflected in

financial indicators in the next reporting periods. The relative importance of these different metrics will vary by region, company, and location. In the mining industry, a focus is on productive and efficient use of resources, however aspects such as quality of service are also relevant as this will include measures of reliability. Labrey, J. (2015) expressed the opinion that another problem in finding the right balance of indicators for economic sustainability is *the difference between financial and non-financial indicators*. Obviously, economic performance will ultimately be measured in financial terms. The major financial ratios involved are (Drucker, P. F., 1993): Financial performance (e.g. profitable, economic value added, share value and net income); competitiveness (e.g. sales growth); innovation (e.g. R&D investment).

Over-reliance on financial indicators can lead to short-term decision making at long-term costs. Professor R.S. Kaplan of Harvard Business School in "The Evolution of Management Accounting" (quoted in Shaw, 1999) stated: "if senior managers are too focused on managing by financial numbers, the possibility exists in long-term of the organization is at stake."

In terms of the above classifications, the main areas in which non-financial indicators are relevant are: Competitive advantage (for example, share of the market against competitors or share of new projects in the industry); quality of service (e.g. customer satisfaction analysis, delays in delivering to customers); flexibility (e.g. ability to change the production schedule when the marketing plan changes); resource utilisation (e.g. resource efficiency); innovation (e.g. R&D versus competition).

What environmental indicators can be measured in the business?

Environmental costs

In enterprises, *environmental costs are often used to assess environmental sustainabilit*y. The environmental cost is the value of resources and activities dedicated to improving the environmental impacts of business processes, designed to prevent, disrupt or eliminate pollution and monitor the environmental impacts of business processes" (Mio, 2002). To measure environmental costs, businesses can use two means: traditional accounting and environmental accounting. Information to support management and decision-making is generated by analyzing (a) environmental costs by product, (b) environmental costs by location, and (c) costs for environmental activities. Accountants use business information systems to measure environmental variables using general accounting and cost accounting. Environmental accounting, in addition to existing accounting specifications, also includes separate surveys to measure the impacts of activities that affect the environment.

Table 1 – Distinguishing types of environmental costs (BHP. 1995)

	Internal environmental costs

External environmental costs	**Direct and indirect environmental costs**	**Environmental contingency costs**
- Depletion of natural resources - Noise and visual impact - Air and water emissions - Garbage disposal - Effects on health - Changes in the quality of life	- Waste management - Compensation to third parties - Cost - Costs for permits - Training on environmental issues - R&D related to environment	- Provisions for future - Payments to third parties - Risk of complaints determined by future legislative changes - Quality of products - Safety of employees and their satisfaction

Value added indicator

However, from the perspective of sustainability in terms of profit, to measure the sustainability of the business, *the value added (VA) indicator is also used*. According to this view, a business is considered sustainable when it has purified revenue, i.e. the business has to pay costs to treat and prevent the waste (environmental costs). VA will be determined as revenue purified after deducting intermediate consumption.(BHP. 1995)

Overview of environmental indicator design parameters (BHP. 1995**)**

<table>
<tr><td colspan="4">Total Revenue (RT)</td></tr>
<tr><td colspan="3">Revenue purified (RP)</td><td>Cost of waste disposal (CWD)</td></tr>
<tr><td colspan="2">Added Value (VA)</td><td>Intermediate consumption (CI)</td><td></td></tr>
<tr><td>Cost for the use of natural resources (CUR)</td><td>Cost incurred in production (CIP)</td><td>Added value less environmental impact (VAN)</td><td></td></tr>
</table>

a= CWD/ RT

b: This ratio depends on each business

Results of environmental management

According to BHP, 1995, VA is calculated in relation to the total revenue and total costs of the business. However, according to Bansal and Howard, 2017, in order to assess the level of environmental sustainability, it is necessary to determine the results of environmental management of the enterprise from the income and costs of the environment separately, not included in the total income and expenses of the business.

Result of environmental management

(Bansal and Howard, 2017)

Environmental Revenues
- Costs of environmental management
= Intermediate result of environmental management
+ Environmental value created (environmental costs - environmental investments part of accrual basis and economic competence)
= Result of Environmental Management
- Environmental value destroyed
= Result of environmental management

Which indicators are used to measure the social sustainability of the business?

Corporate Social Responsibilities

According to Braat, L. 2015, the social sustainability of an enterprise can be assessed by internal employees, external civil society and external government. To evaluate the sustainability of the business in social aspects, Serageldin, I. 1996 approached on the basis of Corporate Social Responsibilities (CSR). Among them, the stakeholder approach is important in explaining CSR activities. The firms strive to satisfy internal and external stakeholders through CSR practices. The internal stakeholders are managers, employees and business partners. The external stakeholders are government agencies, consumers, society and the environment, and civil society organisations. A sustainable business requires the support and approval of its employees, stakeholders, and the communities in which it operates locally and globally. Regarding employees, businesses focus on retention and engagement strategies, including benefits that are more responsive than employee interests. Regarding the community, businesses carry out activities such as providing scholarships, investing in local public projects, etc.

Global Reporting Initiative (GRI)

The GRI has identified a number of general social categories, issues and indicators (GRI 2000). GRI suggests that there are social issues and indicators that have broad utility for stakeholders, companies and sectors. The social issues identified and proposed by Elkington et al are listed in Tables 2 and 3 respectively.

Table 2. Selected GRI social issues and suggested indicators

Issue	Indicators
Policies, organization and management systems	Publicly available missions and values statement, and social policy statements; social charters, codes or voluntary initiatives; organizational structure and responsibilities for oversight and implementation of social policies; management systems pertaining to social performance (e.g. ISO 14001, SA 8000); management systems for supplier and supply chain
Stakeholder relationships	Basis for selection, definition and profile of major stakeholders; approaches to consultation with stakeholders (e.g. surveys, focus groups); number of consultations; the use of consultation data; plans for strengthening stakeholder consultation
Management performance	Performance pertaining to internal social policies and standards and voluntary initiatives; major awards received regarding social performance and activities; indicators of occupational health and safety, e.g. rates of occupational injuries and illnesses and lost workdays
Corporate, employees, community, suppliers and customers	Ethical standards, bribery/corruption, transparency, human rights
Employee performance	Workforce diversity, freedom of association, child labour, turnover rate, absenteeism, compensation & benefits; community performance / involvement, skills transfer, technology transfer, complaints, community reinvestment, philanthropy, taxes
Supplier performance	Procurement standards, partnership screens; customer performance - product labelling, training in product use

In addition to the existing social issues and indicators defined and developed by companies or by organizations and researchers, there are international, regional and national standards related to various aspects of the business and society. These must be incorporated in the development of any sustainability indicator model. For example, EU companies must meet the obligations set forth by Directive 85/337/EEC.

Table 3 - Characterisation of different indicator systems

Name	Overview	Application			Developer	Users
		Environmental	Social	Economic		
DPSIR Framework [Drivers Pressures State Impact Responses]	The DPSIR Framework represents a system analysis view of the relations between the environmental system and the human system. Social and economic activity exerts pressure on the environment, causing changes in the state of the environment. These may lead to impacts that require a response. The response modifies the driving forces, reducing pressure and impacts	✓	X	X	OECD & various	European Environment Agency (adopted as standard methodology), most nations and international bodies reporting on the environment use the DPSIR Framework or some variant
Input-Output-Outcome Impact	The project level equivalent of the DPSIR framework	✓	X	X	World Bank	World Bank and related organizations
Sustainability Performance Management System	This is the architecture of that performance system that provides both the analytical structure for the qualitative evaluation of performance and the logic for combining that evaluation with quantitative measurement so as to be able to track the extent to which a business activity, at whatever unit size one wishes to measure, is contributing to or detracting from sustainable development goals.	✓	✓	✓	Mining and Energy Research Network	Companies, government, NGOs, local communities
In-house	Typically used by those responsible for the development of indicators implemented at specific sites or at company level	✓	✓	✓	Various	Companies
Quality of Life	Designed to assist in the preparation of community-based strategies to promote environmental, social and economic well-being in the relevant local area	✓	✓	✓	Audit Commission (UK)	Local authorities (regional governmental bodies in the UK)
Best Performance Value Indicators	Designed to balance the promotion of sustainability issues with the cost of implementing data acquisition, analysis and reporting	✓	✓	✓	Department for the Environment, Food and Rural Affairs (UK)	Local authorities (regional governmental bodies in the UK)

4. Research methods

4.1. Data and methodology

This study used content analysis techniques, replicated and valid inferential research methods from voluntary economic, social and environmental disclosure data. Secondary sources are based on use of the Business Council for Sustainable Development Vietnam (BCSD) website http://www.vbcsd.vn/ and annual reports by companies for the period 2012-2019. Multivariate regression analysis was used to explore the relationship between the level of economic-socio-environmental disclosure of the company and the attributes of the company as stated in the propositional study. In addition, correlation analysis and regression analysis on STATA software were used to determine the degree of correlation and influences of each factor such as ROE, ROA, EPS, Market capitalization on the level of disclosure economy-socio-environment (DESE) of 195 manufacturing enterprises in Vietnam. In the survey of 195 manufacturing enterprises, we found 92 Sustainability Reports. Because we only studied the disclosure of information on socio-economic and environment, we gave 47 items in 3 categories of economy-society-environment to conduct the scoring of the disclosure of 92 reports. To quantitatively measure the level of corporate environmental disclosure, a binary procedure known as the performance rating system was used to measure the reporting score (RS). Scores of one (1) are awarded if an item is reported; otherwise zero (0) has been awarded. As a result, a company can score a maximum of 47 points and a minimum of zero (0). The formulas for scoring reports using these 47 attributes are shown below:

$$RS = \sum_{i=1}^{47} Ri$$

Where:

RS: Reporting Score

Ri: A score of (1) if the item is reported and (0) if the item is not reported

i = 1, 2, 3... 47

Then, we found the strength of the relationship between ROE, EPS, ROA, Market capitalization to the degree of socio-economic-environmental disclosure, a multiple regression analysis model was applied and used as shown below:

$DESE_t = f(ROE_t, EPS_t, MC_t,)$…….. (1)

This can be written in explicit form as:

$DESE_t = \beta_0 + \beta_1 ROE_t + \beta_2 ROA_{t+} \beta_3 EPS_t + \beta_4 MC_t + U_t$…….. (2)

Where:

DESE = Disclosure of economic, social and environmental

ROE = Return On Equity

ROA = Return On Asset

EPS = Earnings Per Share

MC= Market capitalization

U = Stochastic or disturbance term.

t = Time dimension of the Variables

$\beta 0$ = Constant or Intercept.

$\beta 1\text{-}4$ = Coefficients to be estimated or the Coefficients of slope parameters.

The expected signs of the coefficients (a priori expectations) are such that $\beta 1, \beta 2, \beta 3, \beta 4 > 0$

Data sources

The data sources for this research were basically made up of secondary data sources. The secondary data source was the annual sustainability reports of companies and their websites for the period 2012-2019. The Sustainability Reports derived from data from the Business Council for Sustainable Development (BCSD) and listed companies websites. To analyze the level of corporate economic-socio-environmental disclosure, the content analysis method was applied in this study because it allowed the company to disclose classified and compared information systematically and identify which items are useful for determining trends and levels of disclosure. This method is one of the most systematic methods used by Ashford, N. and Meima, R. 1993; Hackston and Milne, 1996; Krippendorf, 2004; Dutta and Bose, 2008. It is also one of the most common or dominant research techniques used to research, measure and analyze environmental claims in corporate annual reports. Furthermore, it supports or provides an understanding of the firm's meanings, motives, and intentions for disclosing corporate socioeconomic-environmental information (Ashford, N. and Meima, R. . 1993; Roberts, 1992; Gray et al., 1995a; Cormier et al., 2004). However, consistent with similar studies performed by previous researchers, they deployed the use of regression models to explore the relationship between profitability, institutional ownership, asset size and environmental disclosure. This study also adjusted a similar model in analyzing the relationships between ROE, ROA, Beta, EPS, market capital and the level of disclosure of economic-socio-environmental information of enterprises.

Research sample

Among the 195 enterprises listed on the Vietnamese stock market participating in this study, there were 18 rubber processing enterprises, 42 mineral enterprises, 32 plastic packaging

enterprises, 15 fertilizer enterprises, 26 steel manufacturing enterprises, 55 food processing enterprises.

Table 4: Statistics of surveyed firms by industry sectors

STT	Scope of activity	Number of firms	Proportion
1	Rubber processing	21	10.8%
2	Mineral	42	21.5%
3	Plastic packaging	32	16.4%
4	Fertilizer	55	28.3%
5	Steel manufacturing	26	13.3%
6	Food processing	19	9.7%
	Total	195	100%

Out of 195 businesses surveyed, we looked at 92 sustainability reports published by the Business Council for Sustainable Development (BCSD) http://www.vbcsd.vn/. Table 7 presents the distribution of sampled firms based on BCSD.

Table 5: Distribution of sampled firms based on BCSD

BCSD	Year									Total	
Title	Type	'12	'13	'14	'15	'16	'17	'18	'19	Number	%
Manufacturing	Rubber processing	1	1	1	1	4	4	4	4	20	21.7%
	Mineral					1	3	3	3	10	10.9%
	Plastic packaging			1	1	1	2	3	3	11	12%
	Fertilizer	1	1	1	1	4	4	4	4	20	21.7%
	Steel manufacturing		2	2		3	3	3	3	16	17.4%
	Food processing		2	1		2	2	4	4	15	16.3%
Total		2	6	6	3	15	18	21	21	92	100%

The main reason why companies in these manufacturing industries disclose their performance reports more often than others is manufacturing companies must proactively

respond to demand and avoid a possible adverse reaction of stakeholders (Ashford, N. and Meima, R. 1993). They argue that businesses producing consumer goods and food are more pressured by environmental interests than other businesses. In order to proactively respond to increasing pressures on the environment and social responsibility, manufacturing enterprises have actively communicated environmental and social information to their interested parties.

Figure 2 shows the trend of companies' sustainability reporting disclosures from 2012 to 2019. According to Figure 2, the number of companies' sustainability reporting disclosures has been increasing steadily since 2017. This is also consistent with the BCSD Sustainability Report disclosure regulatory strategy. Accordingly, BCSD has stipulated since 2017 that a number of large enterprises listed on the Vietnamese stock exchange must publish Sustainability Reports. In Figure 3, we see that since 2017, the number of published sustainability reports has increased significantly. In 2016, only 8.7% of sustainability reports were published while in 2017, 23.9% were published.

In Vietnam, since 2017, companies have realized that voluntarily publishing their performance reports is a powerful tool to inform the public about their performance. Businesses can use environmentally friendly and social management practices as key factors in their sales strategy as environmental and social information has become important as a marketing tool.

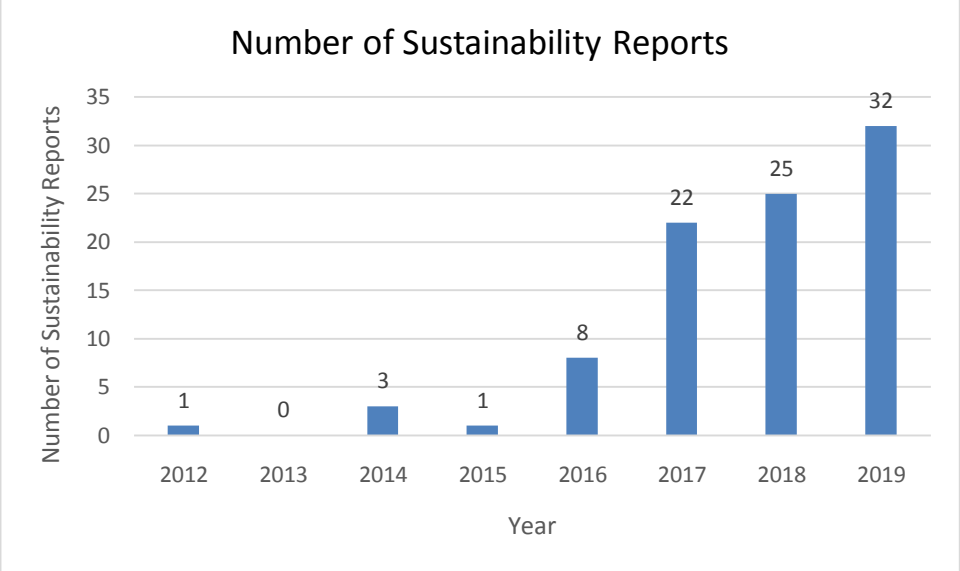

Figure 2 – Number of Sustainability Reports

Table 6 - Results on Incidence of Corporate Economic-Social-Environmental Disclosure

S/N	Industry Type	Number of firms	Sampled Sustainability Report	Averaged No. of DESE/47	% DESE

1	Rubber processing	21	20	27.3	58.1%
2	Mineral	42	10	29.4	62.6%
3	Plastic packaging	32	11	25.3	53.8%
4	Fertilizer	55	20	24	51%
5	Steel manufacturing	26	16	30.6	65.1%
6	Food processing	19	15	43.3	92.1%
	Total	195	92		

Source: Company Annual Report and Website

Table 6 above describes 6 groups of 195 manufacturing enterprises, among which we found 92 Sustainability Reports. We counted the items presented in each report in each of the 47 items, and then averaged them by group. In general, it can be seen that all sampled enterprises present items but in different numbers of items. Specifically, Food processing has the largest number of published items, an average of 43.3 items/ 47 items accounted for 92.1%. This is understandable because food processing targets the group of consumers that need the most information on the environment, businesses of this type also want to publish and inform consumers about the safety of products as well as their contribution to society and environment. Fertilizer has the lowest number of published items of 24/47 items, accounting for 51%.

4.2. Research findings

Table 7 - Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	195	.0326	.0925	-.49	.32
EPS	195	1.463	4.107	-29	27.6
ROE	195	.0776	.1208	-.4	.42
MC	195	4685.04	22614.11	9	229059

The data in Table 7 shows that the average EPS of 195 companies is 1,463 VND/share, the highest is 27,600 VND, the lowest is - 29,000 VND (exchange rate of 23,000 VND/1USD).

Average ROE is 7.76%, the highest is 42%, the lowest is -4%. Average market capitalization is 4685.04 billion VND, the highest is 229,059 billion VND, the lowest is 9 billion VND.

To find out the relationships between the variables (ROE, ROA, EPS, MC) and the level of socio-economic-environmental disclosure (DESE) for the selected listed companies during the surveyed period, correlation analysis was carried out. The explanation of the relationships among variables according to the classification of Rowntree (1987) is cited in Nyongesa & Silas (2009). The correlation coefficient (r) is described below in Table 10

Table 8

	PE	**EPS**	**ROA**	**ROE**	**Beta**	**MC**	**DESE**
PE	1.0000						
EPS	0.0831	1.0000					
ROA	0.1701	0.5555	1.0000				
ROE	0.1766	0.5153	0.5496	1.0000			
Beta	0.0362	0.1664	0.0718	0.1484	1.0000		
MC	0.0910	0.1357	0.2032	0.2294	0.1570	1.0000	
DESE	**0.0862**	**0.4980**	**0.7323**	**0.8532**	**0.1347**	**0.1759**	1.00
Sig	**0.2310**	**0.0000**	**0.0000**	**0.0000**	**0.0605**	**0.0139**	

Table 8 shows that EPS, ROA, ROE, MC indexes are positively correlated with DESE (Sig<0.05), PE, Beta indexes have no correlation with DESE (Sig> 0.05), among which ROE and ROA have a strong correlation (positive influence) on the disclosure of economic, social and environmental information DESE at the correlation level of 0.8532 and 0.7323.

We continued to run the linear regression model with independent variables EPS, ROA, ROE, MC, dependent variable is DESE, the results are as follows:

Table 9

Model |	19.6968151	4 4.92420378	Prob > F	= 0.0000
Residual |	28.8365182	190 .151771148	R-squared	= 0.4058
			Adj R-squared	= 0.3933

DESE	Coef.	Std. Err.	t	P>|	|t|	[95% Conf. Interval]
EPS	.024075	.0085929	2.80	0.006	.0071	.04102
ROA	1.3345	.3931449	3.39	0.001	.5590	2.109
ROE	1.280029	.29358	4.36	0.000	.7009	1.859
MC	0.618	0.128	0.48	0.039	0.653	3.14
_cons	.286	.0332	8.60	0.000	.2202	.3513

The regression equation is rewritten as follows:

DESEt = 0.28 + 1.28 ROEt + 1.33 ROAt + 0.024 EPSt + 0.618 MCt

Thus we see, $\beta 1$, $\beta 2$,$\beta 3$, $\beta 4 > 0$ as expected above, sig<0.05. ROE, ROA have the strongest impact on the disclosure of socio-economic-environmental information of the surveyed enterprises with a positive impact, if ROA increases to 1, the level of DESE disclosure increases to 1/1.33 = 0.75, when ROE increases to 1, DESE increases to 1/1.28 = 0.78.

5. Conclusion:

Sustainability performance indicators help both the company and its stakeholders assess the extent to which a business contributes to sustainability. The article refers to the use of socio-environmental integrated indicators to evaluate the activities of enterprises. The development of a set of criteria for evaluating economic - socio - environmental performance is only the "core", each field may have different specific criteria. From a balanced point of view, quantitative and qualitative indicators must be used together to satisfactorily evaluate the performance of the business. Furthermore, this paper considers indicators as only one tool in an overall sustainable performance management system. The indicators used are subject to change as a change in one indicator may lead to a change in another. It is essential that sustainability metrics have clear and transparent communication with stakeholders from the outset of these impacts. A "top-down" or "bottom-up" approach will also alter some of the metrics. The standardization of indicators can offer a number of benefits, including improved transparency and comparability between regions and companies, providing an opportunity to further develop self-regulatory capabilities, reduce

differences between companies, with the aim of contributing to the management of sustainability issues.

The article presents indicators to measure the sustainable development of enterprises in terms of economy, society and environment; evaluates the correlations between effective factors such as ROE, ROA, PE, EPS, market capitalization and the disclosure of information on the sustainable development of enterprises. We aim to provide a theoretical basis for solving practical accounting-related problems in larger organizations and society. We also hope to complement the purely theoretical research on methods of assessing economic, social and environmental impacts. The article presents the essence of applied accounting research that is contextualized with relevant practical implications and contributes to the theoretical understanding towards sustainable development.

According to the research findings of the article, it is clear that manufacturing enterprises selling necessity products and consumer goods tend to disclose information through the Sustainability Report more than other types of businesses. The majority of enterprises have not fully disclosed information on the Sustainability Report due to socio-environmental measures. We aim to provide a theoretical basis for solving practical accounting-related problems in larger organizations and society. We also hope to complement the purely theoretical research on methods of assessing economic, social and environmental impacts. Disclosure of economic, social and environmental information should be uniformly regulated and its presentation should be made mandatory. However, measuring socio-economic-environmental impacts is still an issue that needs further research because qualitative indicators still exist.

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