THE IMPACT OF SUSTAINABILITY REPORTING PRACTICES ON EARNINGS MANAGEMENT IN LISTED COMPANIES IN SRI LANKA: PRE & DURING THE COVID-19 SITUATION

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ABSTRACT

This study aimed to evaluate the impact of sustainability reporting practices (SRP) on the Earnings Management (E.M.) of companies that are listed on the Colombo Stock Exchange (CSE) in pre and during the Covid-19 situation under the best sustainability ratings 2021. The population under consideration in this research is the total number of companies selected for the best sustainability ratings in 2021. The study population comprised 66 companies, including financial and non-financial companies listed under the Colombo Stock exchange. The random sampling method is used for selecting the study sample. The sample comprises 45 non-financial companies in Sri Lanka that reported SRP disclosure information for six years during 2016-2021. This research used secondary data from the financial, annual, and sustainability reports issued by the companies. The independent variable is SRP, which consists of economic, environmental, and social indicators. The disclosure index of Sustainability reporting guidelines from GRI G4 and finally developed the sustainability reporting disclosure index (SRDI) use for him. The dependent variable is E.M., measured by discretionary accruals calculated using the Modified Jones Model. Descriptive statistics and panel regression analyses were used to analyse the information in the reports to recognise the impact of SPRs on E.M. Research results suggest that there is a significant negative impact of SRPs on E.M. practices in pre and during the Covid-19 period. Indeed, research evidence shows that companies with higher SRPs are less prone to advance E.M. practices. This study's findings indicate that all stakeholders can use earnings management practices and sustainability reporting disclosures as sources of information when making decisions. The outcomes of this research show that non-financial sustainability reporting information disclosures are linked with the financial details published by the firm, specifically in earnings management. The study's other implication is the importance of developing businesses for sustainability reporting disclosure and giving an assurance service for that purpose.

Keywords: Sustainability reporting, Earnings management, Global reporting initiatives, Modified Jones Model, Covid-19.

1. INTRODUCTION

This study provides an insight into the impact of sustainability reporting practices on earnings management in listed companies in Sri Lanka, pre and during the Covid-19 situation. Sustainability reporting keeps developing and has come to the attention of all the companies in the business world. Sustainability reporting procedures

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determine if and how much information about corporate governance and social and environmental impacts must be provided (Herzig et al., 2012). Sustainability reporting includes non-financial information about the companies.

An issue arising from the pandemic is the role of sustainability reporting in identifying the challenges of Covid-19. One of the most often stated performance metrics is earnings, which is of great importance to authorities both inside and outside of the industry as well as to shareholders, suppliers, employees, and customers (Surroca et al., 2007). Companies are typically formed with long-term purposes, not short-term ones. At the macro-economic level, sustainable development is mainly conceptualised (United Nations Department of Economics, 2015). According to the sustainability concept, firms have responsibilities for their customers, employees, shareholders, and communities and the firm's environment within the business operations (Rina Trisnawati, Wiyadi 2016).

Rajeshwaran and Ranjani (2014) identified that the number of sustainability practices disclosed by Sri Lankan companies has significantly increased while it is voluntary disclosure. Sustainability reporting practices provide a good image of the firm's financial performance as well as the firm’s non-financial performance. Financially, firms have to face lots of fraud and manipulations. The research about earning management still discusses recent years. Earnings management is generally treated as unethical behaviour of the company. Earnings management uses managerial discretion in accounting information, which may lead to the manipulation of financial information given to stakeholders and is often considered unethical (Ibrahima M.S, et al., 2015).

Investigating the impact of sustainability reporting practices on earnings management is motivated by three theories: agency theory, stakeholder theory, and legitimacy theory (Gerged., et al., 2020). Based on prior literature (Francesco. G et al., 2020), disclosing information such as sustainability reporting would reduce the unethical behaviours of managers. On the other hand, from the positive side, because outsiders will pay attention to additional information that is important for decision-making, besides earning management information, the disclosure of information will improve earning management (Ibrahima, M.S, Darusb, F, et al., 2015).

Based on prior studies and this problem, this research is aimed to examine the impact of Sustainability reporting practices on earning management pre and during the Covid-19 period. This study tries to understand to find if there is an impact of Covid-19 on manipulation. Therefore, the research questions are as follows,

1. What is the impact of Sustainability reporting practices on earning management pre and during the Covid-19 period?
2. What are the complete changes between the pre-Covid situation and the Covid-19 situation on the relationship between sustainable reporting practices and earnings management?

The main objective of this research is to identify the impact of sustainability reporting practices on earnings management in pre and during the Covid-19 period. Other than that,

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1. To determine the sustainability reporting disclosure factors that positively or negatively affect earnings management.
2. To examine the complete changes between the pre-Covid situation and during the Covid-19 case on the relationship between sustainable reporting practices and earnings management.

Various theoretical frameworks explain why businesses are motivated to publish sustainability disclosures. These explanations contradict earlier theories; according to Gerged., et al. 2020 Stakeholder theory, legitimacy theory, and social contract theory provide the basis for the importance of sustainability disclosures on earnings management. According to the stakeholder theory, to meet the expectations of its stakeholders, business management would refrain from using tactics that manipulate earnings and instead project an image of environmental responsibility (Clarkson, 1995). Manipulations like earnings management can guide this financial improvement.

According to the agency theory, knowledge asymmetry allows managers to further their interests, which could have unfavorable effects. As a result, managers will be tempted to make up for these acts by disclosing more non-financial information, both in terms of quality and quantity. Based on the legitimacy theory, businesses that practice sustainability may announce better financial results to enhance stakeholders' perceptions of the company's reputation (Darus et al., 2008). Researchers have widely used these theories to convey the significance of sustainability reporting practices and earnings management.

The research about earning management still discusses recent years (Dang, H.N et al., 2022). Researchers examined the sustainability reporting practices on firm performance, the impact of corporate governance mechanisms on earnings management and firm performance, and the impact of audit characteristics on earnings management practices in Sri Lankan and international contexts (Gerged., et al., 2020). However, researchers have paid too little attention to identifying sustainability reporting practices on earnings management in the Sri Lankan context.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Sustainability Reporting and Earnings Management

Over the past five years, there has been a rising discussion about how business executives, managers, and policymakers might help society transition to more responsible behaviors and approaches toward the environment and the community (Jackson, T. 2009). Sustainability reporting measures disclose and account for organizational progress regarding sustainable development goals to internal and external stakeholders (KPMG, 2008). There are several reporting frameworks that firms can use to disclose non-financial information and sustainability issues (Dima, S.M 2015). The following are the most often used and applied globally: Global reporting initiative (GRI G4).

The responsibility for preparing and publishing external accounting information is in the hands of company managers. Managers generate information to present a valid and fair view of the company's financial status and performance using their insider

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knowledge of the business and the industry's current state (Spohr, 2005). When managers utilize their discretion in financial reporting and transaction structuring to change the financial reports, this is known as earnings management (E.M.) (Healy and Wahlen, 1999). Earnings management, which involves managers using discretion over accounting numbers, may be intended to mislead some stakeholders about the company's actual economic performance or alter the contract terms based on the reported accounting numbers (Watts and Zimmerman 1990).

Managers typically utilize discretionary accruals to manage profits. Additionally, reported earnings may rise or fall due to E.M. The most crucial tools managers use to manage profits are accruals, which may be utilized to increase or decrease reported income and change or control earnings (Aman et al., 2006). Managers may be motivated to manage payments by several factors. Duncan (2001) stated that organizations that endure high earning periods or that refuse to reveal declining earnings engage in earnings management.

In comparison, Aman et al. (2006) argued that political expenses, internal finance, equity ownership, and debt covenants lead to earnings management. This study assumes management typically manages profits to avoid disclosing losses or increasing reported profits. E.M. may have a direct or indirect impact on the annual reporting. Natural earnings management in the first scenario is achieved using techniques directly tied to business operations; in the second scenario, practices are related to

disclosure through classificatory and accrual earnings management in the financial statements (Francesco. G at el., 2020).

2.2 Review of Related Empirical Literature

Rina.T, Erma. S. et al. (2016) used 33 companies between 2013 and 2015 to examine the impact of sustainability reporting on earnings management (E.M.). This study aimed to assess the impact of sustainability reporting on earnings management for all businesses that took part in the 2015 Indonesian Sustainability Report Award (ISRA). Finally, the findings demonstrate that all aspects of sustainability reporting negatively impact earnings management.

Francesco. G, Alessandra. C et al. (2020) examined the relationship between sustainability reporting (S.R.) and earnings management (E.M.) for a sample of 60 Italian Stock Exchange-listed companies. This study investigates the relationship between sustainability engagement and earnings management (E.M.) practices in 2018 following the implementation of Legislative Decree No. 254/2016 on the disclosure of non-financial information, with specific reference to the Italian environment. According to the final findings, there may be a significant inverse relationship between practices of earnings management and sustainability participation.

Elena Nechita (2021) investigated the earnings management procedures and reporting on sustainability. Light of the rules for the disclosure of non-financial information that is becoming more widely accepted and are in line with the Sustainable Development Goals (SDGs) that the United Nations (U.N.) adopted between 2015

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and 2019. Through a pre-post comparison of firms listed on the Bucharest Stock Exchange (BSE) from 2015 to 2019, the study intends to examine the impact of sustainability and other non-financial reporting on earnings management practices. This study found evidence of a negative relationship between earnings management practices and S.R.

Finally, this research summarized organizations that provide sustainability information with greater transparency are less likely to use earnings management techniques. Okika. N.P. et al. (2022) studied listed non-financial firms in Nigeria's earnings management and sustainability reporting. This research examines how listed non-financial corporations in Nigeria report on sustainability and earnings management.

The study's sample consisted of 24 companies, and the Global Reporting Initiatives (G4) principles was used to quantify sustainability reporting. Dechow, Sloan, and Sweeny (1995) obtained the earnings management variable from the Modified Jones Model for discretionary accrual. The study's results indicate that the drive to manage earnings may have impacted the sustainability reporting procedures used by listed non-financial companies in Nigeria over seven years.

Researchers Ibrahim et al. (2015), utilizing a sample of 16 publicly listed companies in Malaysia that offered Islamic financial products for three years from 2011 to 2013, examined the impact of 13 sustainability reporting practices on earnings management for businesses selling Islamic goods and services. While data on earnings management was gathered using the Modified Jones Model, the content analysis of company annual and standalone reports employed Global Reporting Initiatives (G3) principles to evaluate the consistency of sustainability disclosure.

The study discovered a negative impact of earnings management on the quality of sustainability reporting, showing that this activity does not mislead sustainability reporting. According to the study, sustainability reporting procedures harm earnings management, showing that sustainability reporting does not cover these activities.

2.3 Theoretical frameworks that support S.R. and E.M. practices

Different authors have discussed the following theories under sustainability reporting practices. These are agency theory, institutional theory, stakeholder theory, legitimacy theory, instrument theory, Milton Friedman's capitalism theory and social contract theory. According to the agency theory, information asymmetry allows managers to further their interests, which could have negative influences (Gerged. A.M et al., 2020).

Based on that agency theory, there is an agreement between the owner (principal) and the firm manager (agent) that provides the latter instructions to carry out tasks on the owner's behalf and gives the manager the authority to choose the best course of action for the owner (Jensen, Meckling & Kristanti, 2015). Agency problems are a broad category of issues that frequently arise in agency relationships. It is brought on by the conflict between the principal's and the agent's objectives as the party with management rights (Pramesti et al., 2013).

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Therefore, it is feasible for managers to mislead shareholders while reporting the company's circumstances to make it appear positive in their eyes, even though this would be against the company's actual cases. The creation of contracts as a means of minimizing conflicts between shareholders and management is the solution offered by agency theory (Chairunesia et al., 2018). To make up for these actions, managers may increase the quality and quantity of non-financial information disclosure called sustainability reporting practices (SRP). Based on the legitimacy theory, businesses that practice sustainability may disclose better financial results to enhance stakeholders' perceptions of the company's reputation (Darus et al., 2008). Legitimacy theory explains the relationship between stakeholders in the social contract.

The stakeholder theory can be used to explain non-financial information disclosures of the company. According to the stakeholder's approach, to meet the expectations of its stakeholders, business management would avoid using tactics that manipulate earnings and instead project an image of environmental responsibility (Clarkson, 1995). This viewpoint suggests that firms' activities may aim to satisfy stakeholder expectations and resolve disputes

In another way, a company's ability to achieve sustainable goals in terms of the environment and society results from its ability to strike a balance between the interests of different stakeholders and their willingness to adopt a medium- to long-term business strategy. The institutional theory suggests that many organizations in the those-industrial era have formal structures that focus more on an ideal view of their institutional environment than on the actual needs of their activities (Meyer, J.W et al. 1977).

2.4 Global reporting initiatives (GRI) and Covid-19

Since December 2019, the newly identified Covid-19 pandemic has spread fast in China and other countries worldwide. The pandemic has focused on how businesses respond to global economic, environmental, and social challenges, raising concerns about their actions and responsibilities to stakeholders (Alpaslan et al., 2009). The Covid-19 pandemic focused on corporations' public, social, economic, legal, and ethical obligations (Rahman, T. 2021). According to the PwC 2021 Global Issue Survey, the Covid-19 crisis harmed more than 70% of companies (PwC, 2021).

Covid-19 has a wide range of societal and economic consequences. While there are cases of Covid-19 effects, some say that they are just temporary and that the future will be set by enterprises' decision to return to normal or advance toward sustainable growth and earnings management practices (Bodenheimer M. et al., 2020). This current study focuses on Pre and during the covid- 19 period to add more value to the research. During the pandemic situation, companies' SRP is significantly changed. By considering these two different periods, SRP practices highly decreased.

Companies can use a variety of reporting guidelines, most of which are used internationally, to disclose non-financial information and sustainability issues (Nechita, E. 2021). These include the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB) framework, United Nations Global Compact (UNGC) I.R. framework, and International Integrated Reporting

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Council (IIRC) I.R. framework. Global Reporting Initiative (GRI) is a nonprofit organization focused on enhancing the standard and applicability of sustainability reporting practices. Most companies use the GRI G4 guidelines (Buah et al., 2020). The GRI aims to give better practices in sustainability reporting guidelines in response to growing concerns about a company's economic, environmental, and social context (Sultana et al., 2021). Prior studies used the GRI 4-required sustainability index on economic, ecological and social indicators, such as Elena Nechita (2021) used the GRI sustainability disclosure database to analyses SRP.

Rina, T et al. (2016) Company SRP is measured using Global Reporting Initiative (GRI) G4 Guidelines. Finally, they measured SRP as Sustainability Report Disclosure Index (SRDI), Index also based on GRI guidelines. This current study uses GRI G4 guidelines measured by the SRP. Finally, using the SRDI Index, final disclosures are determined the Covid-19 period significantly changed the SRP and but no changes between the exposure of the SRP in the company's financial information and annual reports (Elena Nechita, 2021). Covid-19 effect factors such as monetary factors, business operation, business value, business contracts, stakeholders (Klymenko, 2021) and all the factors affecting SRP and E.M. practices will be determined.

2.5 Hypotheses development

In the last two decades, various studies have looked at the relationship and degree of influence, often in both directions, between multiple elements and E.M. policies, with particular emphasis on the accuracy of the accounting results. Since 2019 Sri Lanka has faced the Covid-19 pandemic and recognized and understood Covid-19 as more than a health threat. An issue arising from the pandemic is the role of sustainability reporting practices in addressing the challenges of Covid-19. Around then, it is predicted that firms implementing sustainable development practices will restrict earnings management.

According to the prior literature, managers can use discretionary accruals to change accruals included in earnings or RAM to affect corporate performance by causing real economic effects (Almasarwah et al., 2021). By considering pre and during the Covid-19 situation, hypotheses are as follows,

H1: Economic disclosure practices (ECI) significantly negatively impact earnings management.

H2: Environmental disclosure practices (ENI) significantly negatively impact earnings management.

H3: Social disclosure practices (S.I.) significantly negatively impact earnings management.

According to the prior literature, companies must consider their responsibilities to their shareholders, customers, employees, and communities when conducting business. SRP give a better view of the company's non-financial and financial performance. Financially, firms have to face lots of fraud and manipulations. E.M. called a manipulation practice of managers. By disclosing information, such as

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sustainability reporting, managers' unethical practices would be decreased (Francesco. G et al., 2020).

3. RESEARCH METHODOLOGY

This research aimed to evaluate the impact of sustainability reporting practices on the earnings management of companies listed on the Colombo Stock Exchange. The population under consideration in this research is the total number of companies selected for the best sustainability ratings in 2021. The study population comprised 66 companies, including financial and non-financial companies listed under the Colombo Stock exchange. The sample was selected based on a random sample basis.

The sample consists of 45 non-financial companies with the best sustainable ratings in 2021. The data observed from 2016 to 2021 (6 years) is based on the annual reports issued by sample companies. The years 2016 – 2019 are considered as the pre-covid-19 period, and the years 2020 and 2021 are regarded as during the covid- 19 period.

The conceptual framework is shown in the relationship between Earnings Management (E.M.) and Sustainability Reporting Practices (SRP). The dependent variable is Earnings Management (E.M.), and the independent variable is sustainability reporting practices. The independent variable is divided into three subcategories as economic indicators, environmental indicators, and social indicators. The conceptual diagram used firm size and financial Leverage as control variables.

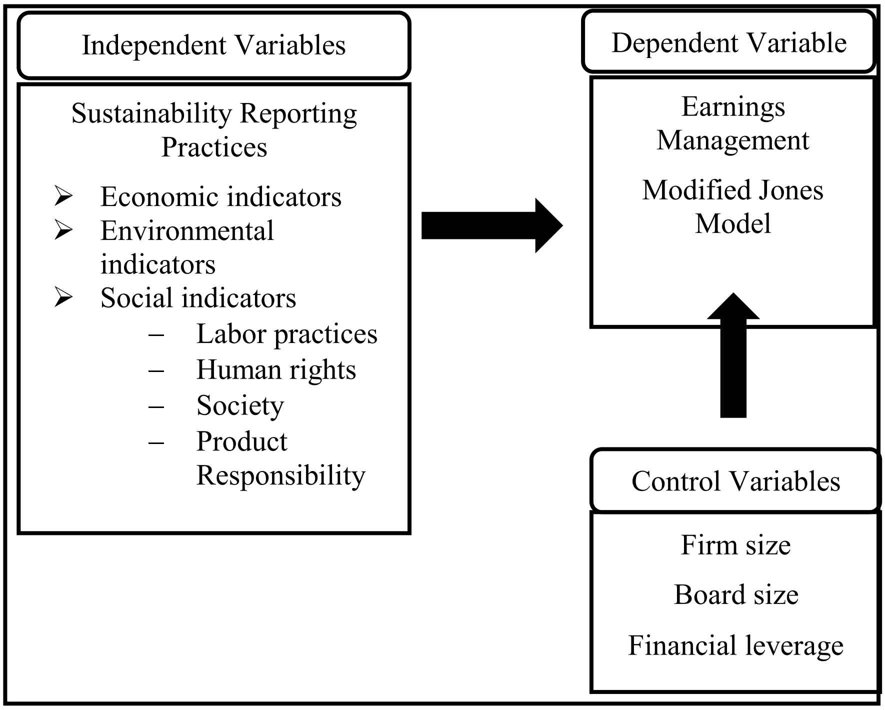

Figure 1 : Conceptual Framework Diagram

Source: Author constructed

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The dependent variable is earnings management. Earnings management is measured by discretionary accruals (DACC). The Modified Jones model was adopted to measure the dependent variable. Calculating the value of discretionary accruals is done in the steps that follow (DACC),

Step I:

Compute Total accruals with the following formula

$TACC_{it} = NI_{it} – CFO_{it}$

$TACC_{it}/TA_{i,t-1} = \alpha 1\ (1/TA_{i,t-1}) + \alpha 2\ ((\Delta\ REV_{it} - \Delta\ REC_{it})/TA_{i,t-1})) + \alpha\ 3(PPE_{it}/TA_{i,t-1})$

Step II:

Based on the regression above, NDACC (non-discretionary) computes by including these coefficients (α):

$NDACC_{it} = \alpha 1(1/TA_{i,t-1}) + \alpha 2((\Delta REV_{it} - \Delta\ REC_{it})/TA_{i,t-1}) + \alpha 3\ (PPE_{it}/TA_{i,t-1})$

$TACC_{it}$: Total accruals for firm i in period t

NI_{it}: Net profit before tax for firm i in period t

CFO_{it}: Operating cash flows from operation for firm i in period t

$NDACC_{it}$: Non-discretionary accruals for firm i in period t

$TA_{i,t-1}$: Total Assets for firm i in the prior period

REV_{it}: Revenue for firm i in period t

REC_{it}: Receivable for firm i in period t

PPE_{it}: Fixed assets (gross) for firm i in period t

Step III:

Furthermore, the discretionary accruals (DA) can be computed as follows:

$DACC_{it} = (TACC_{it}/TA_{i,t-1}) - NDACC_{it}$

$DACC_{it}$: Discretionary accruals for firm i in period t

$TACC_{it}$: Total accruals for firm i in period t

$TA_{i,t-1}$: Total assets for firm i in a prior period

$NDACC_{it}$: Non-discretionary accruals for firm i in period t

The independent variable is sustainability reporting practices (SRP), measured by Sustainability Report Disclosure Index (SRDI). That Index depends on global reporting initiative (GRI) G4 guidelines. The disclosure of sustainability reporting comprises three dimensions: economic, environmental, and social indicators, according to the guidelines. Overall, there are 91 GRI G4 guidelines to measure the

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sustainability reporting practices of the organization. A total of ninety-one (91) items were used in 9 articles about the economy, 34 for environmental, and 48 for social indicators. Total sustainability disclosure is the proportion of full firm scores to total available scores.

$$SRDI = \frac{\text{Sum of GRI G4 disclosures in SRP}}{\text{Total disclosures of GRI G4 disclosures}}$$

Board size (CVBSIZE), financial leverage (CVLEV) and Firm size (CVFSIZE) were used as control variables of the research. The total number of directors on each company's board measures the size of the board of directors—the natural logarithm of total assets used to measure the firm size of the company. Financial Leverage is calculated as the ratio of total debt to the market value of equity. This study employs descriptive statistics to analyze the relationship between earnings management and the sustainability reporting practices of listed firms in Sri Lanka before and after the COVID period. EVIEWS-8 used panel data regression analysis to test the hypotheses in this study.

4. DATA ANALYSIS AND DISCUSSION

The study deals with the impact of sustainability reporting practices on earnings management in listed companies in Sri Lanka: Pre and during the Covid-19 situation. This chapter distributes with results and analysis of the study. The results are generated by using the E-Views software. The study examines the impact of independent and dependent variables identified in the previous section.

4.1 Descriptive Statistics

This section summarizes the descriptive statistics for the study's independent and dependent variables of regression models.

Table 1: Descriptive Statistics for Pre-Covid-19 situation

	DVDA	IVECI	IVENI	IVSI	CVBSIZE	CVFSIZE	CVLEV
Mean	-0.547	0.772	0.728	0.735	8.783	23.645	0.478
Median	-0.522	0.778	0.794	0.750	9.000	23.737	0.510
Maximum	0.107	0.940	0.853	0.854	12.00	26.241	1.000
Minimum	-1.156	0.666	0.441	0.583	6.000	20.011	0.103
Std. Dev.	0.287	0.093	0.145	0.073	1.898	1.3823	0.210
Skewness	0.015	0.238	-1.186	-0.074	0.082	-0.219	-0.147
Kurtosis	2.081	1.692	2.688	2.177	1.890	2.672	2.060
Jarque-Bera	6.337	14.530	42.925	5.237	9.446	2.242	7.278
Probability	0.042	0.001	0.000	0.073	0.009	0.326	0.026
Sum	-98.516	139.039	131.056	132.369	1581.000	4256.054	85.993

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Sum Sq. Dev.	14.729	1.561	3.785	0.971	644.550	342.026	7.907
Observations	180	180	180	180	180	180	180

Source: Author calculation

The largest DA is 0.107, which indicates the maximum, and the minimum of -1.15 represent the lowest DA in the pre covid period. The DA depends on the range of 1.263. The mean value of DA for the sample is -0.547, with a standard deviation of 0.287. In the case of IVECI, the maximum and minimum values for this variable are 0.94 and 0.666, respectively. The IVECI depends on the range of 0.274. The mean IVECI for the sample period is 0.772, with a standard deviation of 0.093. The largest IVENI is 0.853, and the maximum and minimum are 0.441, representing the lowest IVENI in the pre covid period.

That amount should depend on 0.412, and the mean IVENI for the sample period of pre-covid-19 is 0.728 with a standard deviation of 0.146. The largest INSI is 0.854, and the maximum and minimum are 0.583, representing the lowest INSI in the sample period. The mean INSI for the sample period is 0.735, with a standard deviation of 0.074. The INSI value depends on the range of 0.271.

Table 1: Descriptive Statistics during the Covid-19 situation

	DVDA	IVECI	IVENI	IVSI	CVBSIZE	CVFSIZE	CVLEV
Mean	-0.503	0.774	0.729	0.736	8.833	23.923	0.512
Median	-0.493	0.778	0.794	0.750	9.000	23.973	0.536
Maximum	0.131	0.940	0.852	0.854	12.00	26.299	0.843
Minimum	-1.100	0.666	0.441	0.583	6.000	21.136	0.103
Std. Dev.	0.270	0.094	0.146	0.073	1.990	1.359	0.191
Skewness	0.123	0.244	-1.185	-0.061	0.051	-0.057	-0.460
Kurtosis	2.348	1.729	2.688	2.208	1.788	2.200	2.442
Jarque-Bera	1.820	6.951	21.435	2.407	5.552	2.448	4.336
Probability	0.402	0.031	0.000	0.300	0.062	0.294	0.114
Sum	-45.247	69.641	65.603	66.245	795.000	2153.074	46.040
Sum Sq. Dev.	6.488	0.794	1.905	0.475	352.500	164.374	3.264
Observations	90	90	90	90	90	90	90

Source: Author calculation

The largest DA is 0.131, which indicates the maximum, and the minimum of -1.1 represents the lowest DA during the Covid-19 period. The DA depends on the range of 1.231. The mean value of DA for the sample is -0.503, with a standard deviation of 0.270. By comparing the pre and during the Covid-19 situation, no significant

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changes in DVDA in the considered period. In the case of IVECI, the maximum and minimum values for this variable are 0.94 and 0.666, respectively.

The IVECI depends on the range of 0.274. The mean IVECI for the sample period is 0.774, with a standard deviation of 0.094. By comparing the pre and during the Covid-19 situation, no significant changes in IVECI in the considered period. The largest IVENI is 0.853, and the maximum and minimum are 0.441, representing the lowest IVENI during the covid period. It depends on 0.412, and the mean IVENI for the sample period during the covid-19 is 0.729 with a standard deviation of 0.146.

By comparing the pre and during the Covid-19 situation, no significant changes in IVENI in the considered period. The largest INSI is 0.854, and the maximum and minimum are 0.583, representing the lowest INSI in the sample period. The mean INSI for the sample period is 0.736, with a standard deviation of 0.073. The INSI value depends on the range of 0.271. By comparing the pre and Covid-19 situation, no significant changes in IVSI in the considered period.

4.2 Correlation analysis

According to Senthilnathan (2019), Pearson's Correlation analysis is used to evaluate the strength of the relationship between the dependent and independent variables. The correlation coefficient can range in value from -1 to +1.

Table 3: Correlation Analysis Pre Covid-19 situation

Correlation Probability	DVDA	IVECI	IVENI	IVSI	CVBSIZE	CVFSIZE	CVLEV
DVDA	1.000						

IVECI	-0.299	1.000					
	0.691	-----					
IVENI	-0.646	0.200	1.000				
	0.542	0.007	-----				
IVSI	-0.797	0.079	0.012	1.000			
	0.197	0.295	0.874	-----			
CVBSIZE	-0.158	0.127	-0.234	-0.017	1.000		
	0.034	0.090	0.002	0.820	-----		
CVFSIZE	0.075	0.175	0.084	-0.123	0.126	1.000	
	0.315	0.019	0.261	0.100	0.091	-----	
CVLEV	0.116	0.369	0.177	0.219	0.111	0.381	1.000
	0.121	0.000	0.017	0.003	0.138	0.000	-----

Source: Author calculation

There is a negative correlation between IVECI and DVDA. According to hypothesis 01, Economic disclosure practices (ECI) negatively impact earnings management. As

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well as, correlation results show there is a negative relationship between these two variables. When increases economic disclosure practices, E.M. practices decrease. According to hypothesis 02, Environmental disclosure practices (ENI) negatively impact earnings management.

As well as, correlation results show there is a negative relationship between these two variables. When increases environmental disclosure practices, E.M. practices decrease. According to hypothesis 03, Social disclosure practices (S.I.) negatively impact earnings management. As well as, correlation results show there is a negative relationship between these two variables. When increases social disclosure practices, E.M. practices decrease. CVBSIZE negatively correlated with the DVDA and CVFSIZE, CVLEV positively correlated with the DVDA independently.

Table 4: Correlation Analysis during the Covid-19 situation

Correlation Probability	DVDA	IVECI	IVENI	IVSI	CVBSIZE	CVFSIZE	CVLEV
DVDA	1.000						

IVECI	-0.500	1.000					
	0.638	-----					
IVENI	-0.703	0.202	1.000				
	0.511	0.057	-----				
IVSI	-0.202	0.063	0.003	1.000			
	0.840	0.558	0.977	-----			
CVBSIZE	-0.063	0.183	-0.146	-0.051	1.000		
	0.555	0.084	0.170	0.631	-----		
CVFSIZE	0.244	0.179	0.119	-0.151	0.029	1.000	
	0.020	0.091	0.264	0.155	0.789	-----	
CVLEV	0.155	0.255	0.202	0.068	0.076	0.423	1.000
	0.146	0.015	0.057	0.522	0.474	0.000	-----

There is a negative correlation between IVECI and DVDA during the Covid-19 situation. According to hypothesis 01, Economic disclosure practices (ECI) negatively impact earnings management during the Covid-19 period. As well as, correlation results show there is a negative relationship between these two variables. When increases economic disclosure practices, E.M. practices decrease. By comparing the pre and Covid-19 situation, no connection between the pre and Covid-19 periods changes.

According to hypothesis 02, Environmental disclosure practices (ENI) significantly negatively impact earnings management Covid-19 situation. As well as, correlation results show there is a negative relationship between these two variables. When increases environmental disclosure practices, E.M. practices decrease. By comparing the pre and Covid-19 situation, no changes in the relationship between the pre and

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during the Covid-19 periods. According to hypothesis 03, Social disclosure practices (S.I.) negatively impact earnings management during the covid-19 situation.

As well as, correlation results show there is a negative relationship between these two variables. When increases social disclosure practices, E.M. practices decrease. By comparing the pre and Covid-19 situation, no changes in the relationship between the pre and during covid-19 periods. CVBSIZE negatively correlated with the DVDA during the covid-19 case, and CVFSIZE and CVLEV positively correlated with the DVDA independently. By comparing the pre and during the Cov9 crisis, no relationship between the pre and covid-19 periods changes.

4.3 Regression Analysis

Overall test hypothesis with panel data regression. There are three models offered to estimate parameters. They are pooled method, fixed effect and random effect method. All three models will also be evaluated to choose the model that best fits the study's objectives. Two tests can be used to select a panel data regression model: The Hausman test and the Redundant fixed effects test. Based on the results, this study used a random effect model for pre and during the covid-19 situation.

Table 5: Regression Analysis during the Covid-19 situation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.449	0.851	0.529	0.598
IVECI	-0.584	0.247	-2.368	0.003
IVENI	-0.587	0.281	-2.094	0.034
IVSI	-0.606	0.246	-2.468	0.028
CVBSIZE	-0.002	0.015	-0.128	0.898
CVFSIZE	0.022	0.028	0.800	0.425
CVLEV	0.316	0.145	2.177	0.031

Weighted Statistics

R-squared	0.305	Mean dependent var	-0.162
Adjusted R-squared	0.263	S.D. dependent var	0.155
S.E. of regression	0.156	Sum squared resid	4.185
F-statistic	0.905	Durbin-Watson stat	1.853
Prob(F-statistic)	0.005		

Source: Author calculation

In considering the probability value of F-statistic, it is explained that the overall model is significant at the 5 per cent confidence level; hence the probability value of F-Statistic represents 0.005. That means the general model is effective at a confidence level. When considering R square, all independent variables explain 30% of the dependent variable of earnings management. Since the Durbin-Watson value is 1.8, there is no autocorrelation in the selected sample. IVECI, IVENI, IVSI, and CVLEV were statistically significant at a level of 0.05.

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Hypothesis	Hypothesis Accepted or Rejected	
H1: Economic disclosure practices (ECI) have a negative significant impact on earnings management.	-0.584	Accepted
H2: Environmental disclosure practices (ENI) have a negative significant impact on earnings management.	-0.588	Accepted
H3: Social disclosure practices (S.I.) have a negative significant impact on earnings management.	-0.606	Accepted

Based on the hypothesis of the pre-Covid-19 period, results found that sustainability reporting practices harm earnings management.

Table 6: Regression results – During the Covid-19 situation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.741	0.891	-0.832	0.408
IVECI	-0.447	0.216	-2.072	0.006
IVENI	-0.551	0.269	-2.047	0.035
IVSI	-0.701	0.327	-2.145	0.003
CVBSIZE	-0.015	0.018	-0.856	0.394
CVFSIZE	0.026	0.030	0.851	0.397
CVLEV	0.357	0.201	1.777	0.079

Weighted Statistics

R-squared	0.721	Mean dependent var	-0.213
Adjusted R-squared	0.500	S.D. dependent var	0.154
S.E. of regression	0.153640	Sum squared resid	1.959
F-statistic	1.0758	Durbin-Watson stat	2.258
Prob(F-statistic)	0.038		

Source: Author calculation

In considering the probability value of F-statistic, it is explained that the overall model is significant at the 5 per cent confidence level; hence the probability value of F-Statistic represents 0.0384. That means the general model is essential for a confidence level. When considering R square, all independent variables explain 72% of the dependent variable of earnings management. Since the Durbin-Watson value is 2.1, there is no autocorrelation in the selected sample during the Covid-19 period. IVECI, IVENI, and IVSI were statistically significant at 0.05.

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Hypothesis	Hypothesis Accepted or Rejected	
H1: Economic disclosure practices (ECI) significantly negatively impact earnings management.	-0.447	Accepted
H2: Environmental disclosure practices (ENI) significantly negatively impact earnings management.	-0.551	Accepted
H3: Social disclosure practices (S.I.) significantly negatively impact earnings management.	-0.701	Accepted

Based on the hypothesis during the Covid-19 period, results found sustainability reporting practices harm earnings management.

Sustainability reporting practices (SRP) negatively impact DVDA pre and during the covid-19 situation. According to Linh-TX Nguyen (2022), corporate sustainability performance harms the manipulation of natural activities and discretionary accruals of earnings management practices. Tiago and Cristina (2021) have found no significant differences between the impact of SRP on E.M. in pre and during the Covid-19 situations and found an important negative relationship between earnings management and corporate sustainability responsibility in the Italian context. According to regression analysis of output, results show a significant negative relationship with IVECI, IVENI, IVSI and DA. Kim et al. (2012), who support the first thesis on the significant negative impact between SRP and E.M., support the findings—final results suggesting that the significant adverse effects are not changed pre and during the Covid-19 situation. Further, explain during the Covid-19 pandemic situation Company's SRP activities decreased by a huge percentage, but the antagonistic relationship (impact) did not change. These results support the agency theory, legitimacy theory and stakeholder theory.

The impact of independent variables on the dependent variable pre and during the Covid-19 period. Before the Covid-19 situation, IVECI (Economic indicators), IVENI (Environmental indicators), IVSI (Social indicators), and CVBSIZE (Board size) negatively affect with DVDA (Earnings management). CVFSIZE (Firm size) and CVLEV (Leverage) positively affect E.M. practices in Pre Covid-19. Okika, Uyanna and Ibrahim (2022) have identified ESG factors negatively correlate with E.M. further, size and leverage exhibit statistically significant positive correlations. During the Covid-19 situation, IVECI, IVENI, IVSI and CVBSIZE affect DVDA. CVFSIZE and CVLEV positively affect E.M. practices during the Covid-19 case. Rina, Wiyadi and Erma's (2021) study findings supported that ECI, ENI, and S.I. negatively affect E.M. practices. Firm size and Leverage significantly positively affect E.M. practices during the Covid-19 situation.

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Finally, looking at research outcomes, the SRP negatively impacts E.M. practice in Pre and during the Covid-19 situation. The results suggest no significant differences between pre and during the Covid case. The study of Revy and Yanuar (2022) found that sustainability reporting practices negatively impact the manipulation of earnings. Pre and during the Covid-19 period, they conclude that there are no changes between the significant impact based on their outcomes on pre covid and during the covid period.

5. CONCLUSION AND RECOMMENDATION

The practice of E.M. has an impact on all stakeholders, not only the shareholders. Managers may encourage sustainability reporting practices to reduce earnings management practices. This research aims to offer empirical evidence on the impacts of the economic, environmental, and social dimensions of sustainability reporting on earnings management as measured by discretionary accruals before and during the Covid-19 period.

The results indicated that economic, environmental, and social indicators negatively influenced earnings management in pre and during the covid period. Therefore, all hypotheses are accepted in pre and during the Covid-19 period. That means companies with better SRP disclosures are less likely to engage in earnings management practices. Managers can use sustainability reporting practices to further their interests or conceal the results of wrongdoing. However, they are concerned that if earnings management is discovered, they will lose their reputation and the support of their stakeholders.

This research will also address the research gap that has been found in the Sri Lankan context. This study's findings indicate that all stakeholders can use earnings management practices and sustainability reporting disclosures as sources of information when making decisions. Policymakers, investors, corporate governance standard-setters, regulators, and researchers interested in sustainability reporting practices and earnings management would benefit from the results. The study has some limitations that could be considered as strategies for future research. This research only focuses on non-financial companies chosen based on their high sustainability rating evaluation in 2021. Data collected from 45 companies were used to evaluate and resolve the research problem. Therefore, expanding the study's sample size and time frame is proposed.

Another limitation of this research has used secondary data from published annual reports on the CSE website. This research focuses only on companies that published their sustainability reporting practices following the GRI guidelines. This study only evaluates the presentations of annual reports. Still, future studies can expand their scope by incorporating a qualitative approach to conduct questionnaires and interviews with the company's key management personnel to learn more about how they believe about disclosing such SRP and E.M. information in their annual reports. Future studies may provide a more comprehensive sustainability reporting disclosure measurement that can consider different economic, environmental, and social disclosure mediums. Future research should take use advantage of a large sample.

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