Indo-Asian Journal of Finance and Accounting
Vol. 2, No. 2, 2021, pp. 249-273

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www.arfjournals.com

Impact of Sustainability Reporting on Firms Performance in Ghana

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Received: 7 September 2021; Revised: 29 September 2021;
Accepted 5 October 2021; Publication: 30 December 2021

Abstract: There have been increased global concerns about the impact that business activities have on the society. Most corporations are currently responding to these concerns by adopting a strategic system of reporting which integrates the environmental and social impact of their business operations. The inclusion of sustainability issues into corporate annual reports denotes a firm's commitment towards the achievement of sustainable development. The paper sought to review the current trends in sustainability reporting and assess the extent to which mining operations are complying with reporting guidelines in Ghana. The results of the study provide strong evidence on the effectiveness of using the environmental performance ratings as a tool in bringing industries into compliance with environmental performance standards. Although, the general trend in the environmental disclosures levels had increased over the study period, the overall performance ratings of both the industrial and mining operations did not meet the standards required for environmental disclosures. The findings suggest an increase in the level of disclosure on pollution from industrial activities; however, the non-toxic discharge noise and vibration compliance level remained relatively low over the period.

Keywords: Sustainability, Environmental, Disclosures, Performance, Ratings

1. Introduction

The economy of the world is currently faced with a complex range of economic, social and environmental issues including, ozone depletion, climate change, water shortage, labour rights, poverty, forest loss, biodiversity destruction and continued human population growth (Kang *et al.*, 2016). The life-threatening implications of these challenges have drawn criticisms of the traditional capitalist paradigm, prompting calls for a "new accounting system" that recognize the social and environmental impact of organizational and business operations (Gray, 2010). The reporting on sustainability issues is received significance attention from the business community as most corporations are currently integrating the environmental and social impact of their operations into their corporate annual reporting framework.

The term ‘sustainability reporting’ has been defined to “mean the practice of measuring, disclosing and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development’ (GRI, 2014). The concept also refers to “a variety of approaches that organisations can take to communicate their environmental, social and economic priorities, policies, programs and performance” (Willis *et al.*, 2015). The corporate disclosures on sustainability issues has an objective to instil discipline and help an organisation think about and define its long-term vision as well as raise awareness of sustainable practices in the whole organisation (ACCA, 2014). Additionally, sustainability reporting enables an organisation to identify and manage sustainability risks, improve governance, enhance reputation, and build trust (Wokeck, 2019). The increasing awareness of sustainability issues has generated considerable interest from the research community. A number of studies including, Cho *et al.* (2015) have examined the trends in academic research to determine the extent to which recent empirical studies differ significantly from those of the 1970s. The results from the empirical studies suggest that, the general focus of early studies were on the discussion of the definitions of sustainability, the significances and the drivers for companies to disclose sustainability information. In more recent studies however, the emphasis has been on investigating factors influencing sustainability reporting and the relationship between sustainability disclosures and corporate performance. Despite the changing focus of research, most of these studies have mainly been on the approaches to sustainability reporting in developed rather than emerging and developing nations (Masud *et al.*, 2018). According to IMF (2012), developing nations are the most rapidly expanding and lucrative growth markets for business and are therefore more likely to have the most dramatic environmental impacts as globalization, investment, economic growth and business activities significantly increases. Due to the limited attention given to the subject in emerging and developing nations, the study aims at reviewing the trends in disclosure practices and further examines the extent to which mining operations are complying with the sustainability reporting guidelines in Ghana. This current study is important as its findings may contribute to enhancing the corporate reporting practices of organisations as well as ensuring the development of a more robust and efficient framework for protecting and conserving the environment, especially as mining activities have recently been linked with very serious levels of pollution of water bodies and the general degradation of the ecosystem.

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climate change, water shortage, labour rights, poverty, forest loss, biodiversity destruction and continued human population growth (Kang *et al.*, 2016). The life-threatening implications of these challenges have drawn criticisms of the traditional capitalist paradigm, prompting calls for a "new accounting system" that recognize the social and environmental impact of organizational and business operations (Gray, 2010). The reporting on sustainability issues has received significance attention from the business community as most corporations are currently integrating the environmental and social impact of their operations into their corporate annual reporting framework.

The findings revealed that firm-level environmental sustainability is positively associated with financial performance.

The rest of the paper is structured in accordance with the purpose and objectives proposed, with a brief summary of the literature in section 2, a description of the research methodology and data source in section 3, and the empirical results in section 4. Finally, the conclusions are presented in section 5.

2. Literature Review and Hypothesis Development

In 1987, the Brundtland Commission drew the world's attention to the fact that economic development often leads to deterioration, not improvement in the lives of people. Businesses are most often implicated in sustainable development as their industrial activities have critical effects on society and the environment (Azapagic, 2004). The Brundtland Commission calls for a form of sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). To work towards sustainability, businesses need to develop an accounting system that collects analyses and communicates information about sustainability issues based on the integration of environmental, social and economic performance (Elkington, 1998). Currently, organisations are producing voluntary "stand-alone" sustainability reports that are separate from required financial reporting (Herremans, 2012). At the same time, governments and stock exchanges have started to require the inclusion of sustainability disclosures, such as environmental liabilities, corporate governance structures and employees' demographics within existing financial structures (Menzies, 2016). Finally, the integrated reporting movement led by the International Integrated Reporting Council (IIRC) proposed the idea of "integrated reporting" in 2010 (IIRC, 2013). Integrated reporting aims to incorporate material financial and non-financial information - collective mind of those charged with governance and

management performance in terms of economic and social well-being in annual reports (Deloitte, 2012).

Another branch of literature has noted the positive harmonization of environmental reports with those recommended by Directive 2014/95/EU and future possibilities for developing integrated reports (Hassink, 2016). According to a survey of seven Australian public sector organizations, sustainability reporting is based on the annual average, and sustainability information is widely available to internal stakeholders through sustainability reports (Jiang and Fu, 2019). In a study of 14 producers from the automotive industry in Europe and another survey of 220 public organizations in Poland and Europe, the analysis of sustainability reports indicated that some companies have become leaders and are aware of the importance of sustainability in their industry while others are lagging behind in its implementation (Hawrysz and Foltys, 2016).

Moreover, the only certainty is that economic performance is directly influenced by the evolution of the entity in a digital economy, and increasing competitiveness can only be achieved by integrating sustainability (developing CSR policies, sustainability reporting practices continuing, the involvement of all key actors and stakeholders) (Guse, 2016). An analysis of company reporting practices has shown that the mechanisms of coercive and mimetic isomorphism appear to be distinct rather than concurrent (Guse, 2016).

2.1. Benefits of Sustainability Reporting

The literature has well-documented the importance of corporations adhering to the non-financial reporting expectations of the communities in which they operate. Empirical evidence have shown that, sustainability reporting is the most effective way to enhancing investors and stakeholders confidence towards a company during periods of financial crisis and uneven situation. For example, Lee & Yeo (2016) investigating the link between integrated reporting and firm valuation found that, integrated reporting has a positive association with firm valuation. Additionally, high integrated reporting outperforms low content integrated reporting with regard to both stock market performances and accounting performances. The above argument is supported by the findings of Zhou *et al.* (2016), who studied the benefits of integrated reporting to capital markets. The result showed a high level of alignment with integrated reporting and reduction in cost of capital. This confirms that, integrated reporting enhances the information quality and organization's reporting environment. A similar study by Dhaliwal *et al.* (2014), using a sample of 31 countries also echoed the same results after controlling for country level determinants such as country legal

environment and public awareness. In the study, it was revealed that non-financial disclosures such as social and environmental disclosures are negatively and significantly associated with the cost of capital.

2.2. International Reporting Framework

Over the years, several globally accepted sustainability frameworks and metrics have been developed to offer corporations tools, guidance and inspiration to assist with developing their non-financial strategy and reporting. Presented below are some of the international initiatives and frameworks that are shaping sustainability reporting in the world:

2.2.1. Global Reporting Initiative (GRI)

Global Reporting Initiative (GRI) is an independent organisation that has pioneered corporate sustainability reporting since 1997. GRI helps businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption and many others. With thousands of reporters in over 90 countries, GRI provides the world's most trusted and widely used standards on sustainability reporting, enabling organizations and their stakeholders to make better decisions based on information that matters (GRI, 2018).

2.2.2. OECD Guidelines for Multi-National Organisations

The OECD Guidelines is another voluntary initiative consisting of principles of business conduct in areas such as employment and industrial relations, human rights, environment, information disclosure, combating bribery, consumer interests, science and technology, competition, and taxation. Over 40 adhering governments, representing both OECD and non-OECD member countries from all regions of the world, encourage enterprises in their countries to observe the guidelines wherever they operate (OECD, 2013).

2.2.3. ISO 26000

ISO is the world's largest developer of voluntary international standards and since it was founded in 1947, has published more than 21,000 international standards and related documents covering almost all aspects of technology and business, from food safety to computers, to agriculture and healthcare. ISO 26000 helps to define social responsibility and translate principles and issues into effective actions based on international norms of behaviour. The reporting standard is designed to assist organizations in contributing to sustainable development, encouraging them to go beyond basic legal compliance, and to promote a common understanding in the

field of social responsibility, complementing other instruments and initiatives for social responsibility (ISO 26000).

2.2.4. The International Integrated Reporting Council (IIRC)

The International Integrated Reporting Council (IIRC) is a global coalition of regulators, investors, companies, standard setters, the accounting profession and NGOs. The purpose of the integrated reporting framework is to establish guiding principles and content elements that govern the overall content of an integrated report, and explain the fundamental concepts that underpin them. The framework is a principles-based approach and intends to strike an appropriate balance between flexibility and prescription that recognizes the wide variation in individual circumstances of different organizations while enabling a sufficient degree of comparability across organizations to meet relevant information needs (IIRC, 2013).

2.3. Theoretical Framework

The stakeholder theory and legitimacy theory form the theoretical basis for this study. These two theories are the most dominant theories which have been used to explain many perspectives of corporate sustainability reporting.

2.3.1. Stakeholder Theory

The idea of stakeholder theory begun to receive significant attention in organizational and management research, after the publication of Strategic Management: a Stakeholder Approach by Edward Freeman in 1984. The theory refers to how business works at its best, and how it could work. It is about value creation, trade and how to manage the business effectively. The stakeholder theory argues that firms have a moral obligation to consider and appropriately balance the interest of all stakeholders (Freeman, 1984). Successful firms protect the interest of different stakeholder groups such as: shareholders, creditors, employees, suppliers, customers, communities and the general public (Hill & Jones, 2012). The theory of stakeholder has fundamentally become a basis of knowledge for companies to secure their relationship with stakeholders through social and environmental reporting. Sustainability reporting is considered as a strategic approach by which organisations denotes stakeholder's participation and reduces information asymmetry. It has been recognised that, organizations taking into account stakeholders' requirements tend to show better performance than those which do not (Masud *et al.* 2017).

2.3.2. Legitimacy Theory

Legitimacy theory is crucial in explaining organization's behaviour in

developing and implementing corporate sustainability reporting. The theory is defined as "a generalized perception or assumption that actions of an entity are desirable, proper, or appropriate with some socially constructed systems of norms, values, beliefs and definitions" (Suchman, 1995).The theory views firm's interactions with society as a legitimization process through which organisations continually seek to ensure that their actions are congruent with the norms and value systems of their respective societies (Siddique, 2015). Legitimacy theory is premised on the belief that, there is a social contract between the society and the organisation. As society provides the firm with the authority to own and use natural resources, the firm also has a contract with and a responsibility towards the society to be accountable on how it operates and what it does with the resources (Deegan, 2009).

2.4. Empirical Studies on Sustainability Reporting

The literature studying the sustainability reporting practices of businesses has grown significantly over the past three decades. Prior studies including, Deegan & Rankin (2000) employed a sample of annual reports to determine whether there was any difference in the disclosure patterns of firms which had been prosecuted by the EPA. The results of the study showed that, in the absence of strict regulations or requirements businesses willingly provide information favourable to their image, even after prosecution. Wycherley (1997) in a related study conducted an interview of environmental managers to solicit their views on the level of assistance provided by the accountants within their organisations. The study concluded that, organisations benefit if accountants became more involved in the quantification of cost savings associated with improved environmental performance. De Villiers & Van Staden (2006) employed a content analysis of more than 140 corporate annual reports over a period of nine-years to examine the trends in environmental disclosure by South African companies. The results of the study revealed a reduction in environmental reporting after an initial period of increase, for both mining companies and the top 100 industrial companies. Further, Simionescu & Dumitrescu (2018) used a principal component analysis to examine the relation between corporate social responsibility (CSR) practices and company financial performance (CFP) for firms listed on the Bucharest Stock Exchange. The empirical findings provided support for a positive association between CSR and CFP, when companies implement CSR policies regarding employees, environmental protection, and ethics as social practices. Marfo *et al.* (2015) conducted a comparative examination of the corporate social responsibilities (CSR) reporting among listed companies

in Ghana. The study relied on secondary data obtained from the annual corporate reports and found that, the CSR reporting of firms were not stable, all-purpose and more of altruistic in nature. Lastly, Kunori (2018) evaluated the determinants of corporate sustainability disclosure practices among Japanese companies listed on Tokyo Stock Exchange (TSE) between the periods, 2008-2014. The study found that, the sustainability disclosure level and sustainability performance indicators have no strong association as there was a weak positive significant linkage among CSDF rate and water consumption, firm's size, and environmental conservation effort.

2.5. Developing Hypothesis

In order to increase value for the companies, interest in the disclosure of non-financial information has grown on the basis of business models and organization strategies. Many research studies have recommended that companies take actions leading to convergence around a set of CSR reporting instruments that support actions enabling entities to increase effectiveness and create value (An, 2017).

The relationship between sustainability reporting and financial performance is not straightforward. On the one hand, the costly corporate social responsibility initiatives of a firm can be seen as a deviation from the goal of maximizing shareholder wealth (Sutopo, et al, 2018). On the other hand, sustainabilitycan play a role in mitigating risk, preventing the externalities of the irresponsible acts of a firm to society from coming back to it in terms of explicit costs (Latridis, 2013).

Additionally, corporate social responsibility can signal firm operation to outsiders (Hu, Du and Zhang, 2020). This suggests that corporate social responsibility initiatives can be positively, neutrally, or even negatively associated with financial performance, but the most frequently used indicator in the entity's performance assessment is the variable return on assets (ROA) (Hu, Du and Zhang, 2020). More precisely, for users of financial reports, sustainability reporting is an essential tool for the long-term success of the business, directly linked to economic, social, and environmental performance, as well as the proper use of the reporting instruments, and CSR behavior improves shareholder value (Latridis, 2013). Therefore, we state the following hypothesis:

Hypothesis 1 (H1). *CSR behavior is associated with financial performance.*

A few studies are gravitating towards the impact of the degree of disclosure of the environmental information on profitability, including the effects of the level of environmental and social disclosure(Latridis, 2013: Zhang, 2020).

On the empirical side, in a study conducted on multinational companies and private and public organizations in Italy in 2015, the authors concluded that the disclosure of the sustainability risk by some of the large organizations was positively influenced by sustainability experience and international presence, but was not affected by the presence of external insurance (Scagnelli, 2017). By disclosing environmental information, experts are continually looking for new ways to protect the reputation of and benefits to stakeholders, improve eco-performance (Yu, 2018), or explore various existing relationships between sustainability reporting and the disclosure of ethical–social–environmental risks (Scagnelli, 2017).

In a survey of 102 companies indexed on the Warsaw Stock Exchange, the results indicated a substantial difference in the data collection for the stakeholders, which affected the degree of disclosure of information in sustainability reporting situations; however, the degree of integration of diversity did not affect the reporting of diversity except by disclosing non-financial reports (Makni, 2009).

Studies and research conducted in recent years reveal that a company's reputation has a strong effect on CSR consumer interpretations, and this is due to the fact that the company is more accepted and credible if engaged in CSR (Mucan *et al.*, 2015). However, it is necessary to disclose the effects of CSR on reputation, but the social performance of the company is influenced by various factors, including size, diversification, research and development, and market conditions of the company. Some authors have also argued that participation in social issues has had a negative effect on financial performance (Mucan *et al.*, 2015).

Therefore, the second and third hypotheses were as follows:

Hypothesis 2 (H2). *Corporate reputation has a positive influence on financial performance.*

Hypothesis 3 (H3). *Social impact assessments have important benefits for financial performance.*

Global Reporting Initiative (2018) also refers to evaluating the performance of the highest governing body but also to its role in reporting sustainability; economic and environmental identification and management; social impact; efficiency of risk management processes; review of economic, social, and environmental topics; communication of critical concerns; nature and total number of critical concerns; remuneration policies; involvement of stakeholders in the remuneration process; annual compensation report; and percentage increase in total compensation in the year report.

Other specialists (Santoyo-Castelazo and Azapagic, 2014; Frost *et al.*, 2005) provide a complex analysis of the studies on environmental performance, and their results show the following: GRI-based sustainability

analysis contributes to increasing performance; improving environmental sustainability means reducing pollution and the adoption of instruments according to the overall global framework of environmental performance. Interestingly, some authors find that the source of the positive association between CSR investments and financial performance is more likely to be the signaling value of CSR disclosures (Wood, 1991). Consequently, the following hypothesis was proposed:

Hypothesis 4 (H4). *Environmental performance is significantly dependent on CSR behavior.*

According to previous literature, financial statements may be affected by certain non-financial aspects that require their consideration, such as the possible depreciation of assets and consequent reduction in their book value due to adopting environmental laws and regulations; implicit obligations that are generated by a voluntary initiative to remedy certain environmental problems; and presentation of eventual liabilities in financial statements if the expenses for the removal of some aspects of the pollution cannot reasonably be estimated (Santoyo-Castelazo and Azapagic, 2014; Frost *et al.*, 2005).

Other studies have been conducted, not only on aspects of the implementation of corporate social responsibility, but also in different business environments as well as on the perceptions of managers on financial performance issues (Korka, 2005). Likewise, the correlation between corporate social responsibility and profit, and how companies behave while they are experiencing losses but still carry out corporate social responsibility activities have been analyzed. The decision to implement the CSR reporting instruments is influenced by the size of the company, corporate governance factors, and the intrinsic motivation of the management.

The findings of several papers (Latridis, 2013; Manes-Rossi *et al,* 2018; Jiang and Fu, 2019; Global Reporting Initiative, 2013) also indicate that the board size, the representation of outside directors, financial leverage, and the firm size have positive associations with governance disclosure. They also report a positive relationship between the age and size of the companies with the level of social disclosure and financial performance. Chen *et al.*, (2015) found that some managers had a tendency to apply for repetitive disclosures in order to suppress disclosures, providing evidence for the manipulative power of management regarding these reports. Thus, there are studies directly concentrating on the relationship between the auditing partners' overconfidence and auditing quality; all the arguments about managerial overconfidence are still valid for audit processes (Knechel and Vanstraelen, 2007; Fülöp, 2012; Rodgers and Fayi, 2020). The following hypothesis was formulated:

Hypothesis 5 (H5). *Financial transparency is associated with a positive impact on sustainabilityreporting.*

The usefulness of information (earnings per share and earnings per share change) included in reporting sustainability in financial statements is relevant for Sustainable Reporting Award (SRA) winners, according to a survey of 110 SRA-winning companies between 2008 and 2016 (Manes-Rossi et al, 2018). In a study conducted on 64 educational institutions around the world, the authors found 23 demonstrated positive aspects based on the internal motivations expressed through the awareness of sustainability and improvement of the communication with their stakeholders, as well as the negative aspects related to the lack of inclusion of the material effects in the reports and the lack of external involvement of the stakeholders, including the lack of institutionalization of sustainability reporting in the education system Latridis, (2013). Nevertheless, CSR communication is vital for companies and is an important means of generating a positive image and motivating purchase intention. However, there are contrasting views in the literature on the fine line between reputation, CSR communication, and receiving criticism for ethical behavior regarding CSR communication (Latridis, 2013; Manes-Rossi et al, 2018; Jiang and Fu, 2019; Global Reporting Initiative, 2013). Through proactive communication, corporate responsibility commitments have a positive impact on productivity, including the number of hours worked voluntarily or uncompensated (Manes-Rossi *et al,* 2018). Accordingly, the following hypothesis is suggested:

Hypothesis 6 (H6). *CSR communication instruments have a positive influence on financial performance.*

3. Data and Methods

The companies are keen to make a profit and yield the maximum benefits that they deserve to achieve by implementing corporate social responsibility in their regular practices (Cui, Jo and Na, 2018; Morioka and Carvalho, 2016). Non-financial items consist of seven categories measuring a firm's performance regarding responsibility in the following dimensions: social, corporate governance, diversity, employees, environment, individual rights, and products (Garcia *et al.*, 2016). To find the measurement criteria that help in achieving the goal of implementing sustainability reporting in Ghanaian companies, a standardquestionnaire consisting of 20 questions for economic criteria, 18 for social criteria, and 25 for environmental criteria was designed for performance measurement based on requirements from the modification of Global Reporting Initiative 3.1 indicators. The questions were formulated based on known scales in quantitative and qualitative research, mainly using the previously defined variables.

On the basis of the data (Ghana Statistical Service, 2021), the fundamental principle taken into account when using the sampling method was that the layers chosen were related to the dependent variable that is the object of the research. Corresponding to a probability of guaranteeing 95% research results and an error margin of ±5%, for a value $p = 0.50$, the sample size was 400 observation units, so the survey included 400 managers.

Then, 400 questionnaires were sent to different managers as follows: 78—managers from the Greater Accra Region, 55—managers from the Central Region, 42—managers from the Ashanti Region, 13—managers from the North-East Region, 33—managers from the Northern Region, 37—managers from the Eastern Region, 10 – managers from the Volta Region, 20 – managers from the Western Region, 5 – managers from the Savannah Region, 4 – managers from the Upper West Region, 3 – managers from the Upper East Region 10 – managers from the Bono Region, 8 – managers from the Western North Region, 20 – managers from the Western Region, 21 – managers from the Oti Region, 23 – managers from the Bono East Region and 18—managers from the Ahafo Region. The respondents were advised to respond to each item of the questionnaire on a five-point Likert-type scale (1 = totally disagree, 2 = partially disagree, 3 = no opinion, 4 = partially agree, and 5 = totally agree).

The research is conducted from July 2020 to December 2020 and then data analysed via a regression analysis for hypothesis testing. The instruments were tested by validity, reliability, and normality tests. After administering the questionnaire and collecting the data, measurement of model to measure the composite reliability (CR) and average variance extracted (AVE) of each construct. The AVE values indicated that the model had convergent validity for all the constructs, as did the values of composite reliability. Table 1 provides the sample's descriptive characteristics.

Table 1: Sample description

Age Interval in Years	*Managers*	*Percentage (%)*
<25	88	22.00
25–30	97	24.25
30–40	132	33.00
40–50	59	14.75
50–60	24	6.00
Total	400	100.0
	Region	
Greater Accra Region	78	0.195
Central Region	55	0.1375
Ashanti Region	42	0.105

contd. table 1

Age Interval in Years	*Managers*	*Percentage (%)*
North East Region	13	0.0325
Nrthern Region	33	0.0825
Eastern Region	37	0.0925
Volta Region	10	0.025
Western Region	20	0.05
Savannah Region	5	0.0125
Upper West Region	4	0.01
Upper East Region	3	0.0075
Bono Region	10	0.025
Western North Region	8	0.02
Western Region	20	0.05
Oti Region	21	0.0525
Bono East Region	23	0.0575
Ahafo Region	18	0.045
Total	400	100.0

The overinvestment and value-creation hypotheses were tested with the following model:

$$Y = \beta 0 + \beta \, Ait + \alpha it \quad (1)$$

where Y is the dependent variable, $\beta 0$ is a constant, β is the variable coefficient, Ait is variable, and αit is the margin of error.

Scaling allowed us to assess the average score of each alternative response, and there were 58 items. Each of the statements contained in the questionnaire contributed to the calculation of the score of the variable. Returning to the universal multiple regression model, we defined it using the analysed specific variables that included dependent and independent variables. In order to add some value and certitude, we also used control variables. Table 2 presents a description of the scale items and variables.

According to the responses, a major part of the sustainability instruments is related to increased financial and non-financial performance, followed by improved relations with stakeholders. In all the answers, we noticed that sustainability reporting may support a correlation noted between the aim, objectives, and hypotheses of the research, and the preparation of the questionnaire and the responses collected from the managers involved in the research.

4. Results

The interpretation of the results was within the scope of the research, which regarded the characteristics of certain activities in the CSR reporting field that can contribute to optimizing the profile of socially responsible organizations according to existing international standards and approaches. The main statistics (mean, standard deviation, confirmatory factor loading)

Table 2: Definition of variables and items of the constructs

Variables	*Definition*	*Number of Items*
	Dependent variable	
Corporate sustainability index (Y)		8
	Independent variable	
Corporate reputation (β1)	The internal evaluation of Reputation Quotient instrument	7
Corporate social responsibility (CSR) behavior (β2)	CSR behaviour refers to the behavioral aspects of CSR and demonstrates a consideration of the CSR reporting instruments	6
CSR communication instruments (β3)	Ways in which organizations make their CSR projects known	5
Financial transparency (β4)	The extent to which financial reports reveal the index of the audit committee towards those using the financial Reports	6
Social impact assessment (β5)	Include the social factors from Global Reporting Initiative and return on investment [57,61]	5
	Control variables	
Return on assets (ROA) (β6)	Calculated as the ratio between the company's net profit and total assets	7
Organization size (β7)	Category to which it belongs	7
Environmental performance (β8)	The effects of the investment in CSR on the natural environment	7

are presented in Table 3 for all research variables. The mean value, slightly below the middle answer option (scaled between 0 and 1), refers to the description of the overall modest orientation for sustainability at the aggregate level.

Table 3: The key statistics. CR—composite reliability; AVE—average variance extracted

Variables	*N*	*Mean*	*SD*	*Factor Loading*	*Cronbach Alpha*	*AVE*	*CR*
Corporate reputation (β1)	400	4.42	1.472	0.54	0.58	0.35	0.63
CSR behavior (β2)	400	4.892	1.581	0.58	0.67	0.32	0.38
CSR communication instruments (β3)	400	3.13	0.285	0.55	0.58	0.52	0.71
Financial transparency (β4)	400	3.58	0.498	0.46	0.69	0.22	0.52
Social impact assessment (β5)	400	2.77	0.145	0.28	0.58	0.34	0.60
ROA (β6)	400	2.81	0.249	0.48	0.68	0.32	0.61
Organization size (β7)	400	3.04	0.272	0.52	0.59	0.52	0.72
Environmental performance (β8)	400	2.53	0.175	0.44	0.62	0.52	0.68

The CSR behavior variable showed the highest correlation (0.58) in comparison to the CSR communication instruments (0.55) and corporate reputation (0.54). Additionally, organization size showed the highest correlation with the construct (0.52), in comparison to the return on assets (0.48) and financial transparency (0.46).

The first step in testing the hypothesized model was testing the model using the $\chi 2$ statistic. The value measured in this study was 2.94 (= 74.62, df = 25), the normed fit index (NFI) was 0.92, the comparative fit index (CFI) was 0.93, and the root mean square residual (RMSEA) was 0.078. Thus, based on the measurement of $\chi 2$, we found that the model effectively predicted the results.

The second step in assessing the model was testing the hypotheses. We measured the causal relations between latent exogenous variables and latent endogenous variables using the standard coefficient and significance value or with critical ratios. In order to be verified, a hypothesis needs to be greater than +1.78 or smaller than –1.78.

According to the results obtained from the hypothesis testing (Table 4), financial transparency had a significant positive effect on CSR behavior (H5). The construct's primary motive, CSR behavior, with a path coefficient of 0.48, was identified as the most effective variable. Regarding the influence of corporate social responsibility on transparency regarding financial performance, 61.40% of the subjects considered it to have a positive influence, only 33.34% considered it to have a negative influence, and 5.26% considered it to have no influence at all. Unexpectedly, the results of this analysis emphasized that the subjects did not consider that the number of clients pertaining to the provider could pose any risk of outsourcing the service.

Table 4: Standard coefficients and critical ratios for hypotheses

Hypotheses	*Path*		*Standard Coefficient*	*Critical Ratio*	*Result*
H1	CSR behavior	Financial performance	0.48	6.74	Supported
H2	Corporate reputation	Financial performance	0.22	5.62	Supported
H3	Social impact assessment	Financial performance	0.18	4.44	Supported
H4	Environmental performance	CSR behavior	0.14	3.99	Supported
H5	Financial transparency	CSR behavior	0.38	6.14	Supported
H6	CSR communication instruments	Financial performance	0.17	4.72	Supported

The data analysis showed that, indeed, 64.3% of the subjects considered CSR behavior to be a necessary but, with a manifestation probability below 30%, relatively small index if analyzed at the individual level. Consequently, we can assert that the managers took the nonconformity risk from the financial statements into account when considering the economic reality and enforceable regulations.

Considering that a significant percentage of accounting professionals are women while individuals in management positions are predominantly men, such values were also analyzed according to gender. Following the analysis, we concluded that women allotted, on average, greater value to the risk level, with an average of 4.29, while the male subjects allotted an average value of 2.83. There appears to be a different risk-related perception between the genders due to the general predisposition of men towards risk and not due to the profession.

Summary of Interview Responses

The general feedback from interviews conducted shows that, the integration of sustainability into all aspect of business practices is a key priority to the long-term success of mining operations in Ghana. The interview data shows that, mining companies are currently appreciating the significance of promoting responsible and sustainable mining practices. In 2018 for example, Newmont was named the mining sector leader in the Dow Jones Sustainability Index and their assessment grade in CDP (formerly known as Climate Disclosure Project) improved from a rating of B in 2017 to A- in 2018. Aside the adherences to disclosure requirement, mining companies are contributing voluntarily to the development in their host communities. Gold Fields for instance, has been constructing bore holes for the local communities that fall under its catchment area. The action of Gold Fields has seen a significant improvement in the lives of the people as they now have access to portable drinking water. On the part of Kinross, the company was recognised as the best in partnership for community development as well as the best in stakeholder engagement, in the 2018 sustainability and social investments awards organized in the country. Despite the significant social and economic gains which have been generated from the activities of the mining sector, the country continues to suffer from the negative impact of mining operations on the physical and human environment. Efforts at addressing these challenges, has seen the implementation of various legislative and regulatory measures, including the Mineral and Mining Act, 2006 (Act 703) as amended, which was enacted to replace the Minerals and Mining Law, 1986 (PNDCL, 153). The Mineral and Mining Act, 2006 (Act 703) has the objective of consolidating the disparate mining laws that had

earlier on existed as well as ensuring that, the mining operations are conducted in a sustainable manner that protects environment and humans. The details of the interviews with officials of government showed that, the current legislation on mining has succeeded in strengthening and enhancing the level of compliance by mining operations in the country. There were however, few concerns raised in relation to the lack of institutional capacity, especially in the form of human resources, logistics and legal mandate to prosecute offenders as some of challenges confronting state institutions in the enforcement and implementation of the mining laws in the country.

5. Discussion

The evidence presented in this article indicates that sustainability reporting provided benefits to financial performance and increased effectiveness and created value through the process of designing and implementing the corporate social responsibility standards. According to the results, the managers of the analyzed organizations were convinced that the public is prone to trust those who are transparent and clearly transmit information of interest regarding their social responsibility initiatives and projects. The hypotheses related to CSR behavior (H1), corporate reputation (H2), the social impact assessment (H3), and the CSR communication instruments (H6) having significant effects on financial performance were supported. Furthermore, all hypotheses dealing with the links between sustainability reporting (such as social and environmental concerns) and financial performance were supported.

Drawing on these considerations, the results also tell us that:

- the formal reporting mechanisms, reflecting the levels of commitment to corporate social responsibility, and the financial annual reports may become tools for the interested parties;
- CSR reporting reflects corporate social responsibility practices, and it could also act to enhance public image and promote efficient CSR practices;
- manipulating financial results is not a new practice, but pro-active approaches to monitoring financial and non-financial performance are increasingly placing more weight on social and sustainability issues; and
- the impact of the CSR reporting instruments on the performance of the organization's management varies depending on the size of the organization and the sector of activity.

It is also important to note that our results are complementary to previous studies (Munteanu, 2020; Fong Chua, 2009; Bae, 2018) have shown

that since sustainability reporting became fundamentally relevant, companies have been forced to focus on the following actions: materializing a vision for the future, logically addressing the challenges that arise from the sustainability reporting as part of the company's annual report; analysing the specific problems that the company faces in the development of the process of moving to sustainability reporting, by eliminating the existing gaps in relation to financial performance; and formulating concrete strategies to ensure the implementation, monitoring, and transparency of financial reporting in relation to the experience and practice established in the reference social and political environment.

Additionally, the companies' sustainability activities, in accordance with GRI guidelines, have increasingly been common practice, since sustainability reporting is considered a tool for improving their decisions concerning sustainability.

Last but not least, further research may contribute by addressing the following aspects: developing and implementing sustainable enterprise development policies; increasing and improving reporting in developing countries; empowering organizations, governments, and the community to create new partnerships with stakeholders; evaluating the performance of the processes and services acquired by developing sustainability reports; and identifying new directions in sustainability reporting.

6. Conclusions

Sustainability reporting has a strong external (on shareholders) and internal (on employee productivity) impact. Combining financial and non-financial aspects within the same analysis can be fruitful for better assessing the viability of a company. Starting from this association, our research referred to a study of the top managers' opinions in Ghana on sustainabilityreporting.

The findings of this exploratory study underline the importance of adopting sustainable strategies and objectives for businesses, appreciating the views of stakeholder groups when deciding to reconsider sustainability reporting, employee training, and the delimitation of the responsible groups in their drafting, but also the benefits experienced from the reporting process. As a result, the sustainability report becomes, on the one hand, an instrument to promote the enterprise and, on the other hand, a source of accessible information to consumers, real and potential investors, and/or other interested parties about the real impact of the enterprise's activity on society and the environment.

Similarly, some of the hypotheses formulated following the research carried out and the tests applied were validated. Thus, we can conclude that managers who know the corporate reporting instruments were

concerned with their integration into and the transparency of the organization. At the same time, they tended to become more concerned with corporate reporting in the confidence that all these initiatives offer the organization new opportunities to improve management practice and increase performance regardless of the company's size. The positive correlations between the corporate reporting level and financial performance results could encourage more firms to engage in corporate social responsibility activities and report these activities objectively and transparently.

This study also sustains the belief that using CSR reporting at the level of organizations in Ghana can improve their financial performance, and it helps both diverse stakeholders and management regarding decisions and environmental regulations. As a theoretical contribution, this article brings a new perspective on the actual empirical studies that try to demonstrate the connection between the sustainability reporting and financial performance.

The implication for management involves adopting a combined reporting strategy. At the same time, the prudence of the company that implements CSR in terms of the use of aggregation, biased and ambiguous reputation measures and unique indicators of financial performance results. Furthermore, this study also encourages diverse stakeholders and activist groups to aggressively demand corporate social responsibility activities.

Thus, Ghanaian companies that have adapted to the requirements of corporate social responsibility aimed, as appropriate, to impose short, medium, or long term strategies, which consisted of the organic incorporation of sustainability reporting practices, according to their requirements.

On the basis of the findings, the study provides that in the designing and implementation of the rating programme, there should be a broad consultation and an active participation of all stakeholder groups to ensure the effectiveness of the programme. To further promote the level of compliance, a comprehensive environmental programme needs to be designed to educate the different stakeholder groups on the need to effectively and accurately report on all aspects of their operations. Additionally, a regime of incentives such as the public acknowledgement and a scheme of awards should be instituted for good performing companies in order to encourage them to improve on their environmental performance while the poor performing industries are subjected to punitive measures, such as high enforcement as well as increased compliance cost and monetary penalties. Finally, to ensure that companies take sustainability reporting very seriously and put them on their feet, it is recommended for the

government to adequately resource the regulatory institutions in order to strengthen their enforcement and monitoring roles.

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for citation :

Abel Obeng Amanfo Ofori-Ghana (2021). Impact of Sustainability Reporting on Firms Performance in Ghana. *Indo-Asian Journal of Finance and Accounting,* Vol. 2, No. 2, pp. 249-273.