

Sustainability movements, corporate green disclosure and financial performance

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ABSTRACT

Purpose- Theory of sustainable economic growth scripts the foundation for the conservation movement of planet Earth. Sustainable development, an extensively used notion, is an endeavor to combine mounting concerns of environmental issues with rapid socioeconomic progress. Typically, sustainability issue like corporate environmental disclosures (CED) connecting with corporate monetary performance is an intense trigger for the researcher for guiding, motivating, and suggesting policy designers in delineating sustainable goals and implementing strategies. The effect of the present anthropogenic actions on the ecosystems, societies, and environments of the forthcoming is sustainability anxiety, which ought to be mirrored in the deliberate planning of sustainable firms. Through adopting long-term application, a more comprehensive set of accountability aiming at ethical compliance, staffs, vicinities, and clients, such strategic objectives are operationalized.

Design/methodology/approach- In this paper, we have mapped a gradual evolution of the sustainability movement, their policy frameworks, and their drifts towards change, and the outcomes of changes. Further, to aid the policy-making, for taking ecologically sustainable strategies, we have explored the impact of corporate green disclosure activities on the financial performance of the corporate entities from the in effect literature. To develop an association between the sustainability practices of firms through CED and its applied impact on the firm's economic performance, we have searched the relevant literature.

Findings- The findings show that the CED and fiscal performance varies on firms, industries, and countries and give a mixed result. However, due to the global green movements and increasing angst and awareness, the gaps are gradually dwindling and driving the issue towards saturation and institutionalization.

Originality/value- The article offers stimulating inferences for stakeholders that a desire for sustainability compliance through green management and environmental loyalty based on social, environmental, and human objectivity, may result in an optimistic inspiration on the firm's economic performance.

Keywords: Corporate environmental disclosures, Environmental monitoring, Financial performance, Green movements, Corporate strategy, Sustainability.

Mathematics Subject Classification: 90B50, 91B76

Journal of Economic Literature (JEL) Classification: Q56

1. INTRODUCTION

Malthus predicted a gloomy future because of the conflict between ever-growing human beings versus the fixed land, which means that supplies of food cannot meet the demand. The theory of sustainable economic growth in the 1960s scripts the foundation for the preservation movement of planet Earth, supposing that economic growth must use available natural resources in a sustainable way (Dasgupta et al., 2001). And, through scrutiny informed citizens influence sustainability (Dasgupta et al., 2001) necessitating greater information and education policies adoption (Malolitinva and Dzhabrailov, 2020). Brundtland Report (Brundtland, 1987), originate sustainable development concept of meeting the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability is a systems-based concept (Gray, 2010), and is constructed upon efficient transformation process and fairness in distributive effects (Aras and Crowther, 2008). In 1989 David Pearce's Blueprint for a Green Economy (Routledge) had suggested a new economic policy: natural capital preservation i.e. measuring and recognizing the environment in economic benefits, market-like mechanisms, a price imposed on pollution, and to show country's gains and losses from natural capital within a period. As societies have slowly begun to recognize the relevance of planetary ecological boundaries (Rockstrom et al., 2009), the discussion continues with great concern on how to and by whom the compulsory amendments to the usual social practices would be made. And, a social contract symbolizes a relationship that individuals or organizations freely enter into and which can intensify the welfare of humanity through justice fairness (Rawls, 2001). Such understanding contributes as the means for the annexation of society's preferences into corporate performance (Biddle et al., 1997), and meeting it successfully manifest that the organization's purpose is harmonious with society's objectives. Notably, the advanced countries made it mandatory legislations concerning social and environmental issues (Deegan, 2007).

Whilst, social attachment call for preparing approaches and strategies to the intrinsic uncertainties at the interface between the corporate and green issues, and commercial organizations being visible social group have a significant role to tackle the environmental challenges. Corporate green accountability necessitates organizations to contribute to eco-friendly management, accounting methods, and conservational proactivity which are well recognized in the literature (Gray et al., 2014; Pechpoothong and Naenna, 2019). Corporate Environmental Disclosure (CED) has emerged in the last few decades and the early 1970s is known as the social accounting era. Research related to environmental accounting becoming increasingly popular for its academic and practical aspects. However, the majority of studies provide an insight mainly from the developed economies' perspectives (Archel et al., 2009; Newson and Deegan, 2002). Though, limited CED studies been undertaken relating to newly industrialized or emerging economies, particularly in Asia (Liu et al., 2011; Liu and Anbumozhi, 2009; Tang and Li, 2009; Islam and Deegan, 2008). This infers that firms in the developed world tend to establish their environmental reporting practices voluntarily (Uwuigbe and Uadiale, 2011), while those in the developing world leave it to the government to mandate such practices (Azzzone et al., 1996). Any firm's environmental disclosure stratagem depends on a) the advantage of reducing in information asymmetry of managers and shareholders and data collecting

costs by investors (information costs) and b) environmental disclosure using costs by stakeholders apart from shareholders from a firm's financial circumstance landscapes (financial condition). To build up communal bond management gives an additional environmental report to obtain cheaper capital, or to maximize the firm's reputation as a loyal corporate partner. CEOs identify that an establishment's disclosure dogma is a tactical device that delivers economic aids if coped properly. While, firm's pro-environment drive can facilitate objectives (Inman, 2002). There is evidence that an open disclosure policy has a positive impact on firm value (Blacconiere and Patten, 1994; Botosan, 1997).

The paper aims to review the studies that have examined the impact of corporate environmental disclosure (CED), and corporate financial performance to scrutinize the main findings found concerning their relationship. This study seeks to contribute to the argument about the motives to implement green strategies, carrying out a thorough review of the CED and economic performance link. In our view, green strategy and disclosure should be integral of the business for stakeholders' benefit maximization. However, this combination will be favored when regulatory authority can motivate and the decision-makers of firms can realize the execution of environmentally friendly strategies will assist businesses to reach a state where both the company's financial performance and the environmental integrity will be benefited.

The rest of this paper is organized as follows. Section 2 represents the environmental movement and development of various concepts and institutions, forces and obstacles of CED, and ethical aspects of CED, Section 3 and 4 demonstrate the individual and interrelated aspects of CED, economic performance through disclosure strategies. As a final point, Section 5 provides the conclusion and some notions for future study.

2. ENVIRONMENTALISM MOVEMENTS TO REMIND FOR ECOLOGICAL SUSTAINABILITY DOCTRINE

Sustainable development, an extensively used notion, is an endeavor to combine mounting concerns of environmental issues with rapid socioeconomic progress. United Nations (UN) and its technical agencies actively led International development agenda and funds from the inception in late 1940s. Various World Summits, Conferences addresses three magnitude of development — environmental, social and economical. The MDGs saw the junction of development agenda of UNDP, UNEP, WHO, UNICEF, UNESCO and other development agencies. In further strengthening equity, human rights, and nondiscrimination globally Sustainable Development Goals (SDGs) adopted by the agencies reflecting further increase in convergence of the development agenda (Kumar et al. 2016). Some global environmental drives and their subsequent outcomes are a place of inspiration for the inhabitants of planet earth. Global environmental initiatives are fuzzy before 1946, however, some national and regional attempts were taken in different parts of the world, and it is notable to mention that Canada and USA jointly did some activities concerning to environment protection.

A sitting held in 1946 in London and the International Organization for Standardization (ISO) established in February 1947. And, ISO 9000 standards are tools for the corporate entity to ensure the quality that meet customers' requirements. Later, in October 1948, the International Union for the Protection of Nature (IUPN) was founded in Fontainebleau, France, and it was renamed the International Union for Conservation of Nature and Natural Resources (IUCN) in 1956. The goal of IUCN is to inspire, boost and assist societies internationally to conserve ecological integrity and biodiversity, and to check the use of natural capital is equitable and ecologically sustainable.

After a long while, at Ramsar in Iran, "The Convention on Wetlands" was signed in 1971, providing the framework for national action and global assistance for prudent use of wetlands and their resources. The Limits to Growth of Donella Meadows (1972) shows the system's dynamic modeling to estimate future paths for population, production, and pollution. Consequently, the first United Nations Conference on the Human Environment (UNCHE) was held in 1972 in Stockholm, Sweden which steered the initiation of the United Nations Environment Program (UNEP). Development and the environment association concept and identifying ecological degradation as the global enemy were the most valued outcomes. At that juncture, in 1973, Prevention of Pollution from Ships (MARPOL) was signed addressing mainly oil pollution. The international agreement CITES (The International Trade in Endangered Species of Wild Fauna and Flora) speaks to the plight of endangered species was accepted in Washington in 1973.

In 1978, after evolving to terms like "environment and development," "destruction free development," and "environmentally sound growth" the term "eco-development" appeared in the United Nations (UN) Environment Program review. In the following year, Long-Range Transboundary Air Pollution, a pact was signed which encourages policy negotiation and scientific collaboration on air pollution from its source into the atmosphere aiming at the limit and gradually reducing, and preventing air pollution. World Commission on Environment and Development (WCED) was established in 1983 by the UN General Assembly. 'Our Common Future', or Brundtland Report published in 1987 from the WCED declaring that a tradeoff is a must between the environment and the economy and "sustainable development" emerged to ensure enjoying comfort in the earth, development should not expire capital of future generations. Soon after, the Montreal Protocol was signed in 1987 on substances that deplete the ozone layer calls for phasing out production and consumption of compounds that deplete ozone in the stratosphere. Economist David Pearce (1989) vouches for interactions among individuals, money, and the milieu; and developed tools for identifications of conflicts of growth and ecological quality. Besides, Basel agreement was signed up in Switzerland in 1989 on the control of transboundary movements of hazardous wastes and their disposal.

The greatest event regarding the sustainability concern was the UN Conference on Environment and Development (UNCED), which was held in Rio de Janeiro in June 1992, commonly known as Rio Declaration or the first Earth Summit. Countless anxieties evolved with the issues of desertification,

along with climate change and the loss of biodiversity were addressed in the summit which produced the Rio Declaration on Environment and Development. While, Agenda 21, a statement on Forest Principles, and two conventions; one on Biodiversity and another on Climate change were the other major products from UNCED. Many civil society and citizens' groups met in Rio and produced 46 non-binding nature alternative agreements expressing the concern that progress on sustainability issues will not be made only at the country level rather in the international spectacle. Subsequently, the Earth Summit of UN Commission on Sustainable Development has set up by the United Nations to monitor the progress of the countries' relative to treaties made in Rio. Most countries have formed their own National Councils to coordinate efforts between all sectors of society aimed at sustainable development. As a part of a comprehensive strategy for sustainable development, a Convention on Biological Diversity (CBD) was held at the 1992 Earth Summit in Rio de Janeiro, Brazil that targets meeting the needs of generations of human beings fairly. In this pact, governments commit to maintaining the world's ecological foundations in economic development. Three main goals the convention sets: biological diversity conservation, plant and animal species use sustainably, and sharing of benefits equitably from the use of inherited capitals. Further, UN Framework Convention on Climate Change (UNFCCC) formed as another initiative from the 1992 Earth Summit, which sets an overall framework for intergovernmental efforts to meet the challenge of climate change. It recognizes the climate system is a shared resource whose stability can be affected by emissions of carbon dioxide and other greenhouse gases. Moreover, the Convention on Transboundary Effects of Industrial Accidents was signed in 1992, aiming protecting human health and the environment from industrial accidents.

Far along, the United Nations Convention to Combat Desertification (UNCCD) established in Paris on 17 June 1994 (active from December 1996) is the international agreement only legitimate in linking environment and development to sustainable land-dwelling management. Likewise, to mitigate the effects of drought through poverty reduction and conservational sustainability in the affected areas, John Elkington (1999) introduced the Triple Bottom Line (TBL or 3BL) in a framework with three parts of accounting- social, ecological, and financial, also known as the three Ps- people, planet, and profit are the basics of sustainability.

After a while, the Global Reporting Initiative (GRI) created in 1997 in Boston USA, is a voluntary organization that promotes sustainability with the attachment of CERES, UNEP, and the Tellus Institute. A summary of GRI is shown in Fig.1.

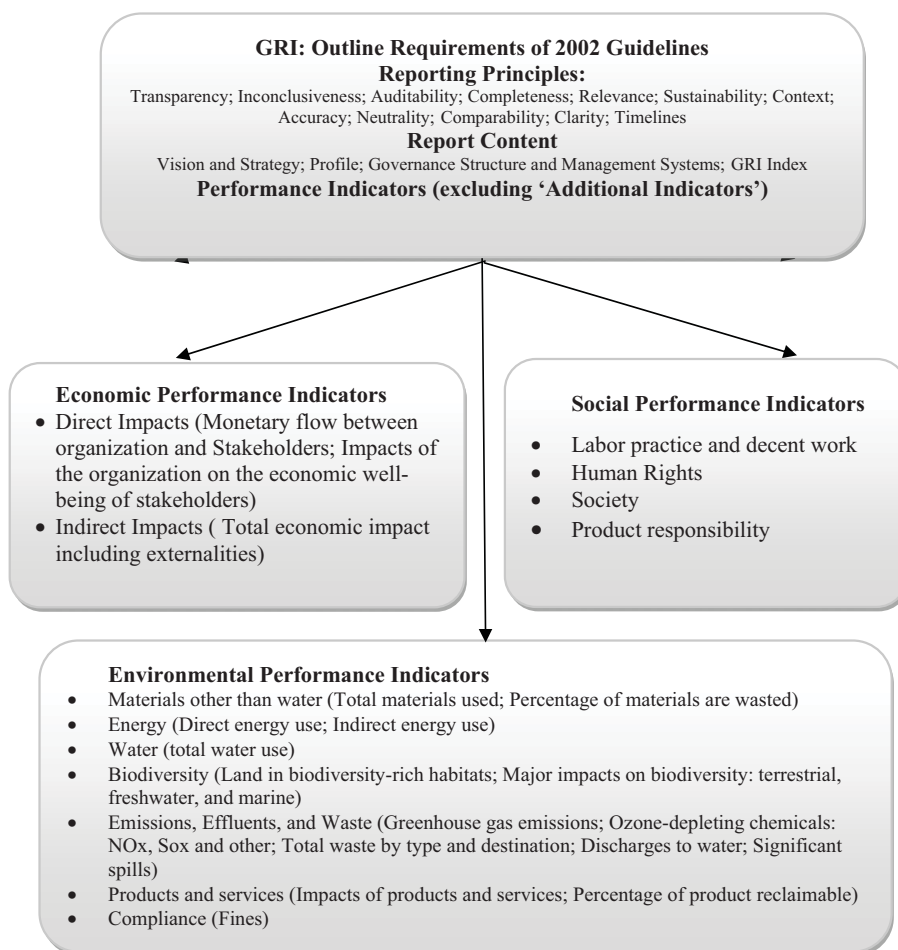


Fig 1. A summary of GRI (Adapted from www.globalreporting.org)

In June 23-27, 1997 on the fifth anniversary of the UNCED, the UN General Assembly sit in a special session to assess the status of Agenda 21, and found progress “uneven” and identified trends worsening the global environment. Further, on December 11, 1997, the Kyoto Protocol was accepted in Kyoto, which was implemented from 2001 as the “Marrakesh Accords”, and it outlines industrial activity as the prime cause of GHG emissions by the developed countries, hence, developed nations must compensate under the principle of “common but distinguished responsibilities.”

Consequently, the World Summit on Sustainable Development was arranged by the UN that took place from 26 August to 4 September 2002, in Johannesburg, South Africa. The 2002 summit is also informally known as "Rio+10" as it was held on the 10th anniversary of the UNCED or the Earth Summit, which promised international cooperation in decreasing world poverty, special attention for developing nations, empowering women, and maintaining biodiversity, for a sustainable future.

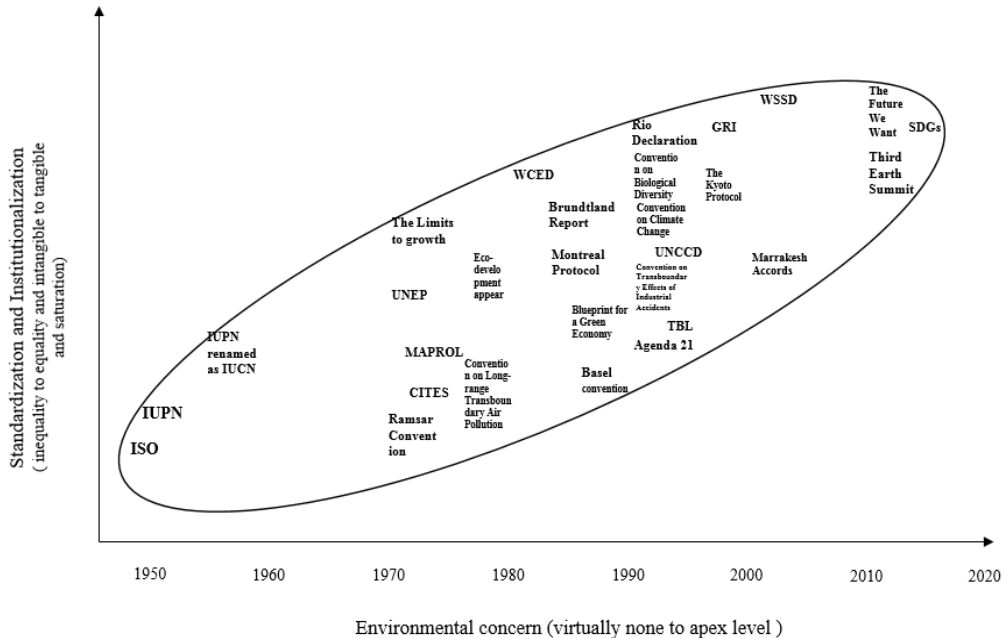


Fig 2. Map of the Environmentalism Movements

The third Earth Summit held in 2012 was aimed at reconciling the economic and environmental goals of the global community. Hosted by Brazil in Rio de Janeiro from 13 to 22 June, Rio+20 was a follow-up to the 1992 Earth Summit held in the same city, and the 10th anniversary of the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg. The primary result of the conference was the nonbinding document, "The Future We Want," a 49-page work paper where the heads of state renewed their commitment to sustainability.

Last but not least, on September 25, 2015, in United Nations Sustainable Development Summit (UNSDS), global leaders adopted the 2030 Agenda for SD, which contains a set of 17 Sustainable Development Goals (SDGs) to end dearth, fight inequity and discrimination, and tackle climate change by 2030. SDGs are known as global goals, aims, and indicators for UN member states for the next 15 years.

2.1. Forces for CED

The environmental drive of the firms is involved in two fundamental stages. The earlier one is compliance-based or the legal concerns for enterprise environmental replies (Rosen, 2001) where responses were more reactive to the regulatory regime. While the later one is the competitive advantage-based opinion argues that ecology and economics are interrelated, and best environmental display leads to above the average industry profits (Rosen, 2001). Then, better technology and the wisdom to influence public policy are the other competitive advantage based on environmental sustainability (Groenewegen and Vergragt, 1991; Shrivastava, 1995; Starik and Rands, 1995). Companies are expected to effectively manage their environmental performance and they are

also to be accountable for this performance (Schaltegger and Burritt, 2000). Many technologically progressed associations and non-governmental organizations (NGOs) offer innovative solutions regarding the problem of report format, standardization, and uniformity (MacLean and Gottfrid, 2000). ISO 14001 and European Union's Eco-Management and Audit Scheme (EMAS) introduced the Global Reporting Initiative (GRI), the Coalition for Environmentally Responsible Economies (CERES), the Public Environmental Reporting Initiative (PERI), and the ICC Business Charter for Sustainable Development (Buchholz, 1998).

Further, some complex motivations could encourage companies to disclose their environmental information. This includes social forces, markets forces, legitimacy forces, and other forces. In social forces, firstly social media network and media (such as TV and newspapers) and the government are providing environmental awareness and training programs for communities for putting pressure on companies. As well as, multi-step training programs, encouragement, and support to stimulate firms to disclose their environmental information. Secondly, being a social enterprise the businesses must disclose environmental information. Thirdly, the faith in the firm's role in society and being a member of society requires the preservation of the environment. Fourthly, religious faith shapes an ethical creed that drives to disclose facts. Fifthly, as a social entity, company managements must have the integrity and patriotism to inform the stakeholders, finally, CED's motivation is to solve the problem rather than catch the offenders. In response to market forces, there is competition in the market and environmental disclosure can play the role in attracting consumers, shareholders, and using advanced and modern technology in the production process encourages companies to disclose their environmental information. Organizational legitimacy forces argue that, if the company preserves the environment and does efforts to preserve the environment, this will encourage it to disclose its environmental information to impress the government and the stakeholders. Importantly, to justify their existence within the society, corporation should bear environmental responsibility and firms should value religion, ethics, integrity, patriotism, and adopt the latest innovation in the production process.

Moreover, awareness of environmental issues is increasing and general evolution of environmental philosophy encourages companies to make an environmental disclosure which is suggested by Gray et al. (1996) and reinforced by de Villiers and van Staden (2007). Disclosure can materialize benefit meaning that saving cost or increasing income. Therefore, market competition (market-company and market-company products) drives companies to disclose environmental information- improving profitability by increasing sales and attracting investors (Elijido-Ten et al., 2010; Ahmad and Gao, 2005; Suttipun and Stanton, 2012). Besides the government's direct and indirect motivation and regulation, and alternative environmental monitoring is inevitable when firms strategically disclose green information. Being in the information age, different stakeholders prepare the disclosure on their perspectives from asset fund reports to NGO-led critical stand explanations and expressive mass media stories (Thomson et al., 2011). Such reports are produced by the outsiders (Shearer, 2002) to provide a real scenario of the firm which can use for intermediation and typically embody the views of worrying social clusters of ecological structures. And, they are creating and publishing about the subject corporation (Dey, 2007; Thomson et al., 2011) based on open access data, with different names and forms as social audits (Medawar, 1976), counter accounts (Gallhofer et al., 2006), and

shadow accounts (Dey, 2007). Such types of monitoring are putting swelling pressure on firms for governance and total environmental disclosure.

2.2. Obstacles of CED

Several obstacles exist to environmental disclosure. To be precise, to encounter uncertainty, to maintain the legitimacy, lack of concern for CED issues, managers' disclosure discretion (Deegan et al., 2002), reluctance to report sensitive information (Solomon and Lewis, 2002), the possibility of damaging a company's reputation (Yuan et al., 2015) and staff shortage (Yuan et al., 2015; Suttipun and Stanton, 2012), lack of regulatory requirements by the states (Jacobs and Kemp, 2002; Ahmad et al., 2014; Ajaz and Ahmad, 2010; Suttipun and Stanton, 2012), lack of awareness and knowledge in developing countries (Ahmad and Gao, 2005; Suttipun and Stanton, 2012), CED is an obligation for others, fear of state agencies decisions, administrative difficulties (Suttipun and Stanton, 2012), to avoid providing information to competitors (Solomon et al., 2002) and corporate reluctance in taking the responsibility of the ecological impact of their events (Belal et al., 2015) are the prime disincentives.

2.3. Ethical aspects

How corporations use reporting to make their operations more or less transparent is an issue of major concern (Hopwood, 2009), and corporations may use environmental disclosure not for greater transparency, but as an alternative to reduce the questions being asked of the organizations. Having specific reporting guidelines for industries historically emitted affluence, which will have to incur these costs and its potential disclosure, few companies disclose their expenditure (Cho and Patten, 2008), and corporate environmental disclosure remains a largely voluntary activity (Buhr, 2007). According to Bebbington and Gray (2000), environmental reporting is a voluntary activity, while disclosure only reflects those environmental actions which organizations wish to release, and it is only a legitimacy device and not an answerability appliance. In addition, Hopwood (2009, p. 437) defines the reporting as a tactic to facilitate in constructing a new and different image of the company and aids as a thick veil, providing a different face to the outsiders, while the true mechanisms of the organization are protected from external view. Furthermore, the environmental disclosure is self-laudatory, with firms disclosing positive sides of environmental performance, but little or not disclosing negative aspects (Hughes et al., 2001; Adams, 2004; Laine, 2010; Boiral, 2013). Berman et al. (1999) found two contrasting views i.e. managerial interest in stakeholders' concerns and on the moral standards to how the firm does business and their ultimate intent is strategic. Another fundamental ethical issue is the measurement of environmental performance itself. Financial performance has a well-accepted summary and standardized indicator such as net earnings, however, CED is still the concept of tentative. Many dimensions including air pollution, water pollution, soil pollution, health and safety, and unsustainable development made it composite. Besides, there is a significant managerial choice in environmental performance indicators and measurement. Likewise, external auditing and validation are still haphazard in many countries and the uniformity gap impedes comparisons across firms as well as formal assessments of overall environmental performance.

3. CORPORATE ENVIRONMENTAL DISCLOSURE (CED)

Economic markets are ever influential globally which can manifest in many ways – including in the ecological dreadful conditions and societal injustice. Sustainability performance involves a sound managing framework linking environmental and social management with the business, competitive strategy, and management. And, it also requires the integration of green and social facts with economic business evidence and sustainability reporting (Schaltegger and Wagner, 2006; Garcia-Sanchez et al., 2016). CED may be one of the possible ways to re-educate markets towards sustainability. A firm's environmental performance reporting, like the publication of its financial performance summary to the public at large, is known as environmental disclosure. The purpose of CED is to pursue the corporate policies, decisions, and actions and make it obligatory to comply with the values of society. Total disclosures of environmental (TED) information, is the sum of mandatory environmental disclosure (MED) and voluntary environmental disclosure (VED). So, it can be said that $MED + VED = TED$ (Wang, 2016).

Although it is evident that companies providing environmental disclosures have been increased in number (Deegan and Gordon, 1996), and the form of green reports (Koehler and Chang, 1999), studies attempted to detect the factors coupled with the discrepancy in environmental disclosure amongst firms (Hackston and Milne, 1996; Deegan and Gordon, 1996; Gray et al., 1995a; Patten, 1992; Cowen et al., 1987). Gray et al. (1995b) argue that the social-political (political economy, legitimacy, stakeholder) theories have resulted in the most influential studies of social disclosure which advise that corporate environmental disclosure is a function of social and/or political pressure (Bewley and Li, 2000). More specifically about legitimacy theory, Patten (1992) argues that a corporation's economic legitimacy is monitored through the market while the public policy process monitors the social legitimacy. Lindblom (1994) put forward that a corporation uses disclosure as a device to (1) educate relevant citizens and inform about actual performance changes, (2) change public perceptions about the organization performance, (3) deflect attention from the core issues of concern by stressing accomplishments related to the social issues, or (4) pursue to change public beliefs of its act (Gray et al., 1995b). Another distinct view advocates that environmental reporting is strictly an economic decision, with management assessing the additional disclosure benefits to be derived from costs which are determined by the explicit-implicit contractual relationships of the firm's stakeholders. For instance, if the information is used by outsiders against its interests, there may be a cost from disclosure (e.g., competitors, pressure groups), and disclosure may be beneficial if the firm can convince its investors about various aspects of its operations and performance and thus can reduce its cost of capital, which approach has been used to clarify definite financial reporting adoptions (Scott, 1994). For corporate environmental disclosure, Li et al. (1997) and Barth et al. (1997) commonly suggest that firms adopt a strategic stance in disclosing (or not disclosing) environmental liabilities, through their genuine environmental performance playing a significant role. However, the release of green obligations as part of an overall environmental disclosure strategy of companies which is determined by an objective of cost-benefit trade-offs. Voluntary disclosure theory (Bewley and Li, 2000; Clarkson et al., 2008) suggests companies use the information to signal an

unobservable proactive strategy toward environmental concerns relative to poorer performing firms, while legitimacy theory (Cho and Patten, 2007; Deegan, 2002, 2007) argues companies use the disclosure as a tool to reduce exposures to the social and political environment.

A diverse number of factors influence CED practices including their level and quality. Notably, company size and industry types (Liu and Anbumozhi, 2009; Brammer and Pavelin, 2008) are the leading roots in the level and quality of environmental disclosure in financial reporting. Industries with excessive environmentally sensitivity, typically categorized as the gasoline, chemical, metals, and paper (Cowen et al., 1987; Patten, 2002; Hackston and Milne, 1996; Halme and Huse, 1997), make more comprehensive disclosures than from less naturally sensitive businesses and market consider the implicit ecological liabilities to pulp-paper firms, chemicals, and oil refiners (Cormier and Magnan, 1997). The negative news of environmental events alike spills and disasters (Deegan et al., 2000), or the fines and prosecutions met from environmental safety agencies (Li et al., 1997) call for CED, yet, companies from non-environmentally sensitive industries, do not make any adjustment for potential industry effects (Fekrat et al., 1996). And, others found that proprietary costs (leverage, productivity), information costs, the risk (Cormier and Magnan, 2003), ownership (Cormier and Magnan, 1999) or ownership dispersion (Ullmann, 1985; Keim 1978), societies varieties, features of country's system (Garcia-Sanchez et al., 2015), business's fixed assets age (Freedman and Jaggi, 1992), company age (Ullmann, 1985; Cowen et al., 1987) and firm processes determine the level and quality of environmental disclosure. Likewise, a firm's financial condition, the regulatory system (Cormier and Magnan, 2007), director ownership, government proprietorship, the board size, exposure to public pressure (Dobler et al., 2015) governs firms' levels of CED. The governments through regulations; the capital provider of the companies; and the creditors who can provide economic power through debt provision (Roberts, 1992) are the other persuading factors of CED. In addition, Media attention is evident to relate to corporate environmental disclosures (Cormier and Gordon, 2001), and a firm's media publicity is to some extent more valuable to the analysts than environmental disclosure (Aerts et al., 2008).

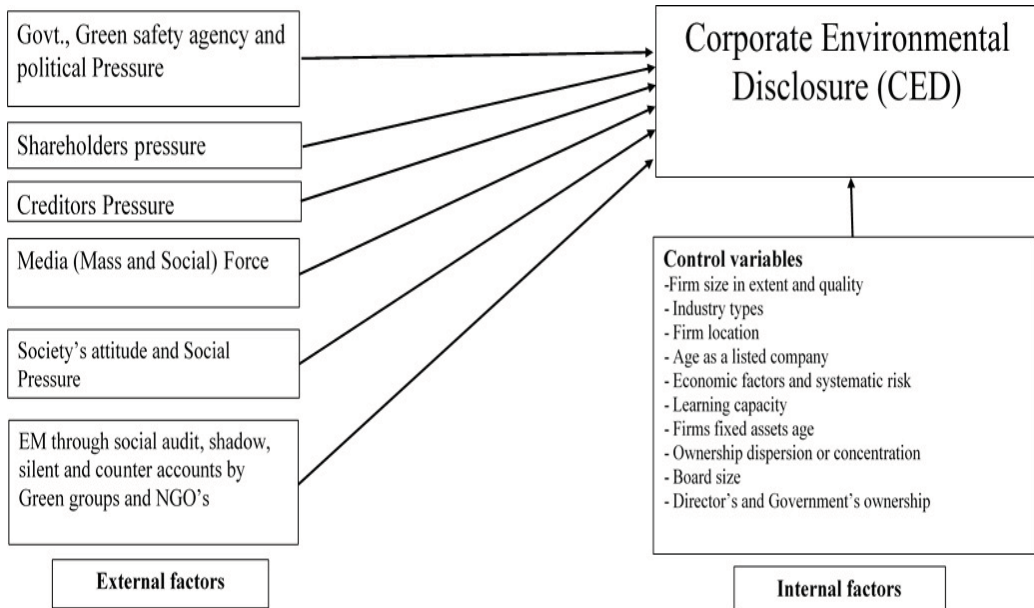


Fig 3. A literature-based systematic model on the determinants of environmental disclosure

Communicating through media, CED can be used to correct community misperceptions (O'Donovan, 1999). Concurrently, various stakeholders as a part of Environmental Monitoring (EM) or on their perspectives prepare the disclosure varying in format, ranging from asset fund reports to NGO-led critical viewpoint explanations and expressive mass media stories (Thomson et al., 2011). Also, based on open access data they are creating and publishing about the subject corporation (Dey, 2007; Thomson et al., 2011) in different names and forms such as social audits (Medawar 1976), counter accounts (Gallhofer et al., 2006), and shadow accounts (Dey, 2007), such reports are produced by the outsiders (Shearer, 2002) provide a real scenario of the firm. Such report is used for intermediation which typically embodies the views of worrying social clusters of ecological structures.

On the contrary, transparently reporting is an issue of major concern (Hopwood, 2009), besides, few companies disclose their expenditure (Cho and Patten, 2008). And, CED remains largely a voluntary activity (Buhr, 2007), while disclosing the environmental action which organizations wish (Gray, 2002) providing a different face to the outsiders. Besides, the environmental disclosure is self-laudatory, with firms disclosing positive sides of environmental performance, but little or not disclosing negative aspects (Adams, 2004; Cho, 2009; Laine, 2010; Boiral, 2013). Nevertheless, due to the inconclusiveness of CED, a body of research recommends for the in-depth query and what pushes variances in disclosing the corporate environmental information is remains unsettled (Ingram and Frazier, 1980; Wiseman, 1982; Freedman and Wasley, 1990; Fekrat et al., 1996; Hughes, 2000; Hughes et al., 2001; Patten, 2002; Al-Tuwaijri et al., 2004; Cho, 2009).

4. CORPORATE ECONOMIC PERFORMANCE

A firm's performance can be measured on the economic performance (financial returns, market share, and sales growth) and operational performance (aspects that relate to the improvement of process efficiency). The economic performance of the business is mainly grounded on the profitability level (Cowen et al., 1987) that gives the flexibility and freedom for firms to make CED (Gray et al., 1995b), and higher-level disclosures drive towards greater profitability. In addition, analyzing the financial performance of a business house profitability ratio is pragmatic that shows the combined effect of the ratio of liquidity, asset management, and debt on operative consequences (Brigham and Houston, 2006). Net profit margin or return on equity can be used in measuring fiscal performance that specifies the company's capacity to make profits after subtracting all outlays, and monetary performance can also be measured by sales growth and cash flow/sales ratio. Additionally, economic performance indicates a firm's business performance in terms of return on assets (ROA), return on investment (ROI), internal rate of return, and market share. Operational performance has been used as an indicator of a firms' performance whether the firms utilize its resources effectively to achieve its objectives. Moreover, economic value added (EVA), a tool for creating assets is another leading indicator of economic performance, is popular in corporate finance which represents an enterprise's market value. Stern et al. (1995) defined EVA as the difference between a company's net operating profit after taxes and its total cost of fund i.e. equity cost and debt cost. What is more, EVA evaluates the company's performance with another group of companies through the comparison using performance based on traditional accounting. Biddle et al. (1997) found that EVA may be an effective tool for internal decision making, performance measurement, and incentive compensation. John O'Hanlon and Ken Peasnell (1998) pointed out that the EVA index has more superior ability to explain stock price changes than the traditional index. William P Rogerson (1997) and Ehrbar (1998) showed a mechanism to use the EVA index into an application of a firm's performance management includes strategic design, capital spending choices, performance management and appraisal, reimbursement plan, and some else.

4.1. Environmental disclosure and financial performance

Relating corporate environmental disclosures (CED) and corporate monetary performance are vital for framing sustainable goals and implementing strategies to reach a win-win situation both for the planet earth and for the enterprises (Pedron et al., 2021). Corporate sustainability entails the analysis of the influences of social and eco-friendly initiatives on overall business profitability (Epstein and Roy, 2001). Affirmative approaches and strategies to the intrinsic uncertainties at the interface between the corporate and green issues have inferences for the firm's competitiveness (Sharma and Vredenburg, 1998; Berry and Rondinelli, 1998; Ameer and Othman, 2012). Such kind of proactive conservation strategy shapes the firm's affiliation with staff, fund providers, consumers, policymakers, and other participants (Hart, 1997). Yet, firms with sufficient financial means and management competencies can only pursue a proactive environmental strategy (Clarkson et al., 2011). Financial development and trade openness boost the environmental quality (Sahnewaz, 2019) and less emission are significantly associated with better financial performance (Hassan and Romilly, 2018). Improving

profitability by increasing the scales and to attract investors to the CED strategy is worthy (Elijido-Ten et al., 2010; Ahmad et al., 2005; Suttipun and Stanton, 2012). Pedron et al (2021) reported that sustainability practicing firms have higher economic performance as measured by ROA, earning before taxation, and cash inflow. Eco-efficiency is positively related to operational performance and open market value (Guenster et al., 2011; Soedjatmiko et al., 2021). While CED is a strategic choice option and explicit environmental endeavors provide positive pieces of evidence (Hassan et al., 2013), and voluntary disclosure and profitability are ominously positively correlated (Richardson and Welker, 2001; Al-Tuwaijri et al., 2004). Besides, Deegan and Gordon (1996) assume that more positive disclosure of environmental information to the community should contribute to their economic performance. In other words, environment disclosure is more prospective to have an optimistic effect on the monetary performance of the current year or the following year(s) as a result of a time lag effect on the financial performance. Likewise, reverence to human rights, culture, society as well as product responsibility shows a substantial and positive link with the yield on equity (Chen et al., 2015), and Clarkson et al. (2013), found environmental reporting to be incrementally instructive over an alternative measure for conservational performance (TRI data) in guessing firm's profitability and firm's value, and more positive disclosure quality is significantly positively associated with a firm value (Plumlee et al., 2015). Equally, corporate governance is correlated with TED, MED, and VED and firm value is positively connected to VED (Wang, 2016). Also, carbon facts disclosure adds positively to enterprise value formation suggesting managers can reap more financial paybacks by disclosing more carbon data and investing in carbon effluent management, and studies have analyzed the benefits that carbon information disclosure brought to an enterprise is positive value creation (Saka and Oshika, 2014; Chapple et al., 2013; Nishitani and Kokubu, 2012). As well, by using asymmetric data and stakeholder theories, for searching the link of carbon information release of enterprises in value creation, Li et al. (2015) investigates market liquidity and cost of equity capital and found that carbon data revelation has a noteworthy affirmative influence on business value creation. Moreover, environmental management behaviors can improve the relationship between the company's stakeholders, which in turn can help to gain environmentally friendly recognition and can improve corporate value considerably (Hang and Chunguang, 2015). Correspondingly, environmental enthusiasm influence a firm's capital construction, and the match between the two is connected with a superior financial demonstration (Simerly and Li, 2000), and CED practice is indicative of a better-managed firm and/or that the managements are positively signaling to the financial participants that the threats linked with social and conservational issues are being well managed, (Gray, 2002). As well, firms with a visible community accountability concert, a well social, green reporting demonstration have improved economic performance (Richardson et al., 1999), and the better economically performing companies do indeed manifest a healthier level of visible social obligation, social and conservational reporting conduct (Murray et al., 2006). Further, green products, process and services have become a central business strategy which driven by the competitive pressures and customer requirements (Agbejule et al., 2004), and ISO 14001 certification has a positive influence on firms' performance (Ann et al., 2006). Finally, VED is value-relevant i.e. the marketplace participants value

voluntary release and the more a firm's VED, is the higher value it has given stakeholders (Uyar and Kiliç, 2012).

On the contrary, economically fragile firms that acquire external finance have a higher disclosure (Jankensgård, 2015), others opine that conservation responsiveness and financial performance are linked positively to a certain level and then become negative (Bowman and Haire, 1975; Ullmann, 1985). In addition, the superior financial performers had higher incidences of green policies and/or images of the conservational pledge than firms categorized as low thespians, while firms considered as medium monetary performers had the highest frequencies of firm eco-friendly policies and/or a report of their ecological vow (Stanwick and Stanwick, 2000; Gerged et al., 2020). And, some found no correlation between superficial environmental disclosure and profits (Rahman et al., 2009; Cormier and Magnan, 2007), CED is self-laudatory and promotes positive aspects only (Deegan and Gordon, 1996). Interestingly, an investigation of firms from Canada, France, and Germany (Cormier and Magnan, 2007) using simultaneous equations approach for the searching relationship between environmental disclosure and firm attributes and found CED does not significantly influence the stock market valuation of a firm's earnings. Moreover, some found that "green-behavior" has no effect on financial return, i.e. the compensation, required by investors, and may be due to being a relatively new concept. However, such behavior may be beneficial in terms of firming customer loyalty, attracting new clients, improvement of the image being socially responsible (Puopolo et al., 2015; Gerged et al., 2020; Soedjatmiko et al., 2021). In addition, some found that managers believe that investing in environmental issues can lead to reduced profits, (Aupperle et al., 1985), and CED practices in emerging developing economies, for instance, Malaysia, profitability is negatively linked with the level of disclosures, which may be partially attributable to the ripeness of the reporting practice (Smith et al., 2007).

5. CONCLUSION AND RECOMMENDATIONS

A desire for ultimate sustainability through green supervision and environmental loyalty based on social, environmental, and human objectivity may result in an optimistic inspiration on the firm's economic performance. As well, CED and corporate economic performance tradeoffs are a crying need of the new millennium for the better and smoother future of our planet. Nevertheless, nearly all the studies were conducted in the developed economies while quantification is limited in emerging developing countries and very limited in developing countries. This study examined the environmental information disclosure behaviors and its consequence on economic performance. The observed results provide important insights into a firm's environmental disclosure motives. We tried to link economic performances driven by the corporate green disclosure. At the moment, global environmental awareness and movements are creating a common ground [i.e. publication of the World Conservation Strategy of IUCN, (1980), Brundtland report of WCED (1987), Our Common Future, TBL, GRI, and ISO] for a combined effort of the more accurate and reshaped CED practices which is reflecting in developed countries corporate arena and they are going to be well adopted

globally. And, CED is significantly increased over time due to the increase in societal concern involving environmental issues. To be more specific we found that the CED practice is gradually heading towards saturation and institutionalization, and the discrepancies are dwindling progressively. And, green disclosure practice is positively connected to corporate financial performance, with a few exceptions. Moreover, the discrepancies, lack of transparency, self-laudatory, unwillingness to release the total disclosure, and firms strategic posture may and should be checked and controlled by an depth trial of their statements, through a direct engagement, or through reconstruction like that in Adams (2004) or else through constructing “silent”, “counter” or “shadow” account, not for confronting but for a desire to expedite physical adjustment.

Further, managers’ beliefs that investing in environmental issues can lead to reduced profits, was challenged by stakeholders and resource-based view which claim that for obtaining goodwill, innovation, competitive advantage, and reducing risks of future mandatory regulation firms should engage in green activities. The literature proof an adverse link between emissions and financial performance and a positive association between pollution prevention and firm value, though, by satisfying interested party demands and implementing a positive strategy, firms can upgrade their economic performance. Additionally, participatory environmental regulation and technical assistance to encourage, assist firms in understanding and identifying the way-out are needed to address the environmental challenges. Besides, if, the superior environmental performer can be identified and rewarded, it can be an extensive incentive to economic gains in the form of goodwill. Furthermore, investors and experts may consider a firm’s green involvements in forming investment strategies, and firms with proactive conservational strategy, filling the demands of various patrons, are likely to invite investors to buy their shares and ultimately enhance their share returns.

For future research, CED-environmental performance -firm performance and stakeholder’s net value creation may be a link. However, due to the lack of comprehensive and unique standards of data on firms’ environmental statements, it will be a bit tough. The study of how firm, society, and country characteristics are affecting the link concerning environmental management system and firm performance may be done, though such characteristics and environmental disclosure are linked diversely. It can analyze the link among CED, business strategy, and social strategy as a management tool and their association in economic value creation and social well-being maximization. The further research may investigate how not-for-profit enterprises observe sustainable practices and their evaluation procedure as they differ from for-profit businesses.

5. REFERENCES

- Adams, C.A., 2004, The ethical, social and environmental reporting-performance portrayal gap. *Accounting, Auditing and Accountability Journal* 17(5), 731-757.
- Aerts, W., Cormier, D., Magnan, M., 2008, Corporate environmental disclosure, financial markets and the media: An international perspective. *Ecological Economics* 64(3), 643-659.

- Agbejule, A., Fernández, M., d'Espiney, S., 2004, Approaches to environmental value analysis of products, processes, and services. *Management of Environmental Quality: An International Journal* **15**(2), 111-130.
- Ahmad, N.S., Gao, S.S., 2005, Corporate environmental reporting in Libya: A study of absence. *Social and Environmental Accountability Journal* **25**(1), 11-14.
- Ajaz, T., Ahmad, E., 2010, The Effect of Corruption and Governance on Tax Revenues. *The Pakistan Development Review* **49**(4), 405-417.
- Al-Tuwaijri, S.A., Christensen, T.E., Hughes, K.E., 2004, The relations among environmental disclosure, environmental performance, and economic performance: a simultaneous equations approach. *Accounting, Organizations and Society* **29**(5), 447-471.
- Ameer, R., Othman, R., 2012, Sustainability practices and corporate financial performance: A study based on the top global corporations. *Journal of Business Ethics* **108**(1), 61-79.
- Ann, G.E., Zailani, S., Wahid, N.A., 2006, A study on the impact of environmental management system (EMS) certification towards firms' performance in Malaysia. *Management of Environmental Quality: An International Journal* **17**(1), 73-93.
- Aras, G., Crowther, D., 2008, Evaluating sustainability: Need for standards. *Issues in Social and Environmental Accounting* **2**(1), 19-35.
- Archel, P., Husillos, J., Larrinaga, C., Spence, C., 2009, Social disclosure, legitimacy theory and the role of the state. *Accounting, Auditing and Accountability Journal* **22**(8), 1284-1307.
- Aupperle, K.E., Carroll, A.B., Hatfield, J.D., 1985, An empirical examination of the relationship between corporate social responsibility and profitability. *Academy of Management Journal* **28**(2), 446-463.
- Azzone, G., Noci, G., Manzini, R., Welford, R., Young, C.W., 1996, Defining environmental performance indicators: an integrated framework. *Business Strategy and the Environment* **5**(2), 69-80.
- Barth, M.E., McNichols, M.F., Wilson, G.P., 1997, Factors influencing firms' disclosures about environmental liabilities. *Review of Accounting Studies* **2**(1), 35-64.
- BASEL, <http://www.basel.int/TheConvention/Overview/tabid/1271/Default.aspx> (accessed 28 November 2021).
- Bebbington, J., Gray, R., 2000, Accounts of sustainable development: The construction of meaning within environmental reporting. *Aberdeen Papers in Acct, Finance and Mgmt Working Paper No. 00-18*.
- Belal, A.R., Cooper, S.M., Khan, N.A., 2015, Corporate environmental responsibility and accountability: What chance in vulnerable Bangladesh? *Critical Perspectives on Accounting* **33**, 44-58.
- Berman, S.L., Wicks, A.C., Kotha, S., Jones, T.M., 1999, Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. *Academy of Management Journal* **42**(5), 488-506.
- Berry, M.A., Rondinelli, D.A., 1998, Proactive corporate environmental management: A new industrial revolution. *The Academy of Management Executive* **12**(2), 38-50.
- Bewley, K., Li, Y., 2000, Disclosure of environmental information by Canadian manufacturing companies: a voluntary disclosure perspective. *Advances in Environmental Accounting and Management* **1**(1), 201-226.
- Biddle, G.C., Bowen, R.M., Wallace, J.S., 1997, Does EVA® beat earnings? Evidence on associations with stock returns and firm values. *Journal of Accounting and Economics* **24**(3), 301-336.

- Blacconiere, W.G., Patten, D.M., 1994, Environmental disclosures, regulatory costs, and changes in firm value. *Journal of Accounting and Economics* **18**(3), 357-377.
- Boiral, O., 2013, Sustainability reports as simulacra? A counter-account of A and A+ GRI reports. *Accounting, Auditing & Accountability Journal* **26**(7), 1036-1071.
- Botosan, C.A., 1997, Disclosure level and the cost of equity capital. *Accounting Review* **72**(3), 323-349.
- Bowman, E.H., Haire, M., 1975, A strategic posture toward corporate social responsibility. *California Management Review* **18**(2), 49-58.
- Brammer, S., Pavelin, S., 2008, Factors influencing the quality of corporate environmental disclosure. *Business Strategy and the Environment* **17**(2), 120-136.
- Brigham, E.F., Houston, J.F., (eds) 2006, *Fundamentals of Financial Management*, Business school edition (11th ed.), Mason, OH: South-Western College.
- Brundtland, G.H., 1987, Report of the World Commission on environment and development. Our common future: United Nations.
- Buchholz, R.A., 1998, *Principles of Environmental Management: The Greening of Business* (2nd Ed.), New Jersey, USA: Prentice-Hall Inc.
- Buhr, N., 2007, Histories of and rationales for sustainability reporting, In O'Dwyer, B., Bebbington, J., Unerman, J., (Eds.), *Sustainability, Accounting and Accountability* London: Routledge, pp. 57-69.
- Chapple, L., Clarkson, P.M., Gold, D.L., 2013, The cost of carbon: Capital market effects of the proposed emission trading scheme (ETS). *Abacus* **49**(1), 1-33.
- Chen, L., Feldmann, A., Tang, O., 2015, The relationship between disclosures of corporate social performance and financial performance: Evidences from GRI reports in manufacturing industry. *International Journal of Production Economics* **170**(B), 445-456.
- Cho, C.H., 2009, Legitimation strategies used in response to environmental disaster: A French case study of Total SA's Erika and AZF incidents. *European Accounting Review* **18**(1), 33-62.
- Cho, C.H., Patten, D.M., 2007, The role of environmental disclosures as tools of legitimacy: A research note. *Accounting, Organizations and Society* **32**(7), 639-647.
- Cho, C.H., Patten, D.M., 2008, Did the GAO get it right? Another look at corporate environmental disclosure. *Social and Environmental Accountability Journal* **28**(1), 21-32.
- Clarkson, P.M., Fang, X., Li, Y., Richardson, G., 2013, The relevance of environmental disclosures: Are such disclosures incrementally informative? *Journal of Accounting and Public Policy* **32**(5), 410-431.
- Clarkson, P.M., Li, Y., Richardson, G.D., Vasvari, F.P., 2008, Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society* **33**(4), 303-327.
- Clarkson, P.M., Li, Y., Richardson, G.D., Vasvari, F.P., 2011, Does it really pay to be green? Determinants and consequences of proactive environmental strategies. *Journal of Accounting and Public Policy* **30**(2), 122-144.
- Cormier, D., Gordon, I.M., 2001, An examination of social and environmental reporting strategies. *Accounting, Auditing and Accountability Journal* **14**(5), 587-617.
- Cormier, D., Magnan, M., 1997, Investors' assessment of implicit environmental liabilities: An empirical investigation. *Journal of Accounting and Public Policy* **16**(2), 215-241.
- Cormier, D., Magnan, M., 1999, Corporate environmental disclosure strategies: determinants, costs and benefits. *Journal of Accounting, Auditing and Finance* **14**(4), 429-451.

- Cormier, D., Magnan, M., 2003, Environmental reporting management: a continental European perspective. *Journal of Accounting and public Policy* **22**(1), 43-62.
- Cormier, D., Magnan, M., 2007, The revisited contribution of environmental reporting to investors' valuation of a firm's earnings: An international perspective. *Ecological Economics* **62**(3), 613-626.
- Cowen, S.S., Ferreri, L.B., Parker, L.D., 1987, The impact of corporate characteristics on social responsibility disclosure: A typology and frequency-based analysis. *Accounting, Organizations and Society* **12**(2), 111-122.
- Dasgupta, P., Serageldin, I., (eds), 2001, Social capital: a multifaceted perspective. World Bank Publications.
- Dasgupta, S., Laplante, B., Mamingi, N., Wang, H., 2001, Inspections, pollution prices, and environmental performance: evidence from China. *Ecological Economics* **36**(3), 487-498.
- de Villiers, C., van Staden, C.J., 2011, Where firms choose to disclose voluntary environmental information. *Journal of Accounting and Public Policy* **30**(6), 504-525.
- Deegan, C., 2002, Introduction: the legitimising effect of social and environmental disclosures-a theoretical foundation. *Accounting, Auditing and Accountability Journal* **15**(3), 282-311.
- Deegan, C., 2007, Organisational legitimacy as a motive for sustainability reporting. In: Unerman, J., Bebbington, J., O'Dwyer, B., (eds), *Sustainability, Accounting and Accountability*, London, United Kingdom: Routledge, pp. 127-149.
- Deegan, C., Gordon, B., 1996, A study of the environmental disclosure practices of Australian corporations. *Accounting and Business Research* **26**(3), 187-199.
- Deegan, C., Rankin, M., Voght, P., 2000, Firms' disclosure reactions to major social incidents: Australian evidence. *Accounting Forum* **24**(1), 101-30.
- Dey, C., 2007, Developing silent and shadow accounts. In: Unerman, J., Bebbington, J., O'Dwyer, B., (eds), *Sustainability, Accounting and Accountability*, London, United Kingdom: Routledge, pp. 307-326.
- Dobler, M., Lajili, K., Zéghal, D., 2015, Corporate environmental sustainability disclosures and environmental risk: alternative tests of socio-political theories. *Journal of Accounting & Organizational Change* **11**(3), 301-332.
- Ehrbar, A., 1998, *EVA: The Real Key to Creating Wealth*. IL, USA: John Wiley & Sons.
- Elijido-Ten, E., Kloot, L., Clarkson, P., 2010, Extending the application of stakeholder influence strategies to environmental disclosures: An exploratory study from a developing country. *Accounting, Auditing and Accountability Journal* **23**(8), 1032-1059.
- Elkington, J., 1999, *Cannibals with Forks: the Triple Bottom Line of 21st Century Business*. Oxford: Capstone.
- Epstein, M.J., Roy, M.J., 2001, Sustainability in action: Identifying and measuring key performance drivers. *Long Range Planning* **34**, 585-604.
- Fekrat, M.A., Inclan, C., Petroni, D., 1996, Corporate environmental disclosures: competitive disclosure hypothesis using 1991 annual report data. *The International Journal of Accounting* **31**(2), 175-195.
- Freedman, M., Jaggi, B., 1992, An investigation of the long-run relationship between pollution performance and economic performance: the case of pulp and paper firms. *Critical Perspectives on Accounting* **3**(4), 315-336.
- Freedman, M., Wasley, C., 1990, The association between environmental performance and environmental disclosure in annual reports and 10Ks. *Advances in Public Interest Accounting* **3**(2), 183-193.

- Gallhofer, S., Haslam, J., Monk, E., Roberts, C., 2006, The emancipatory potential of online reporting: the case of counter accounting. *Accounting, Auditing and Accountability Journal* **19**(5), 681-718.
- Garcia-Sanchez, I-M., Cuadrado-Ballesteros, B., Frias-Aceituno, J-V., 2016, Impact of the institutional macro context on the voluntary disclosure of CSR information. *Long Range Planning* **49**(1), 15-35.
- Gerged, A.M., Beddewela, E.S., Cowton, C.J., 2020, Is corporate environmental disclosure associated with firm value? A multi-country study of Gulf Cooperation Council firms. *Business Strategy and the Environment* **30**, 185-203.
- Gray, R., 2002, The social accounting project and Accounting Organizations and Society Privileging engagement, imaginings, new accountings and pragmatism over critique? *Accounting, Organizations and Society* **27**(7), 687-708.
- Gray, R., 2010, Is accounting for sustainability actually accounting for sustainability and how would we know? An exploration of narratives of organizations and the planet. *Accounting, Organizations and Society* **35**, 47–62.
- Gray, R., Adams, C., Owen, D., 2014, *Accountability, Social Responsibility and Sustainability: Accounting for Society and the Environment*. London: Pearson Education.
- Gray, R., Kouhy, R., Lavers, S., 1995a, Corporate social and environmental reporting: a review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing and Accountability Journal* **8**(2), 47-77.
- Gray, R., Kouhy, R., Lavers, S., 1995b, Constructing a research database of social and environmental reporting by UK companies. *Accounting, Auditing and Accountability Journal* **8**(2), 78-101.
- Gray, R., Owen, D., Adams, C., 1996, *Accounting & Accountability: Changes and Challenges in Corporate Social and Environmental Reporting*. London, UK: Prentice Hall.
- GRI, <https://www.globalreporting.org/>, (accessed 26 November 2021).
- Groenewegen, P., Vergragt, P., 1991, Environmental issues as threats and opportunities for technological innovation. *Technology Analysis and Strategic Management* **3**(1), 43-55.
- Guenster, N., Bauer, R., Derwall, J., Koedijk, K., 2011, The economic value of corporate eco-efficiency. *European Financial Management* **17**(4), 679-704.
- Hackston, D., Milne, M.J., 1996, Some determinants of social and environmental disclosures in New Zealand companies. *Accounting, Auditing and Accountability Journal* **9**, 77-108.
- Halme, M., Huse, M., 1997, The influence of corporate governance, industry and country factors on environmental reporting. *Scandinavian Journal of Management* **13**(2), 137-157.
- Hang, S., Chunguang, Z., 2015, Does environmental management improve enterprise's value?—An empirical research based on Chinese listed companies. *Ecological Indicators* **51**, 191-196.
- Hart, S.L., 1997, Beyond greening: strategies for a sustainable world. *Harvard Business Review* **75**(1), 66-77.
- Hassan, A., Hunter, C., Asekomeh, A., 2013, GRI Application Levels and Disclosure on Specific Environmental Activities: An Empirical Investigation of Industry Membership and Geographical Region of Top European Companies. *Social and Environmental Accountability Journal* **33**(3), 156-176.
- Hassan, O.A., Romilly, P., 2018. Relations between corporate economic performance, environmental disclosure and greenhouse gas emissions: New insights. *Business Strategy and the Environment* **27**(7), 893-909.
- Hopwood, A.G., 2009, Accounting and the environment. *Accounting, Organizations and Society* **34**(3), 433-439.

- Hopwood, B., Mellor, M., O'Brien, G., 2005, Sustainable development: mapping different approaches. *Sustainable Development* **13**(1), 38-52.
- Hughes, K.E., 2000, The value relevance of nonfinancial measures of air pollution in the electric utility industry. *The Accounting Review* **75**(2), 209-228.
- Hughes, S.B., Anderson, A., Golden, S., 2001, Corporate environmental disclosures: are they useful in determining environmental performance? *Journal of Accounting and Public Policy* **20**(3), 217-240.
- Ingram, R.W., Frazier, K.B., 1980, Environmental performance and corporate disclosure. *Journal of Accounting Research* **18**, 614-622.
- Inman, R.A., 2002, Implications of environmental management for operations management. *Production Planning and Control* **13**(1), 47-55.
- Islam, M.A., Deegan, C., 2008, Motivations for an organization within a developing country to report social responsibility information: evidence from Bangladesh. *Accounting, Auditing and Accountability Journal* **21**(6), 850-874
- ISO, <http://www.iso.org/iso/home/about.htm>, (accessed 27 November 2021).
- IUCN, 1980, World Conservation Strategy: Living Resources Conservation for Sustainable Development, IUCN, UNEP and WWF in collaboration with FAO and UNESCO. Gland: Switzerland.
- Jacobs, K., Kemp, J., 2002, Exploring accounting presence and absence: case studies from Bangladesh. *Accounting, Auditing and Accountability Journal* **15**(2), 143-161.
- Jankensgård, H., 2015, The relationship between voluntary disclosure, external financing, and financial status. *Journal of Business Finance and Accounting* **42**(7-8), 860-884.
- Keim, G.D., 1978, Corporate social responsibility: An assessment of the enlightened self-interest model. *Academy of Management Review* **3**(1), 32-39.
- Koehler, D., Chang, M., 1999, Search and disclosure: Corporate environmental reports. *Environment: Science and Policy for Sustainable Development* **41**(2), 3-3.
- Kumar, S., Kumar, N., Vivekadhish, S., 2016, Millennium development goals (MDGS) to sustainable development goals (SDGS): Addressing unfinished agenda and strengthening sustainable development and partnership. *Indian Journal of Community Medicine* **41**, 1-4.
- Laine, M., 2010, Towards sustaining the status quo: Business talk of sustainability in Finnish corporate disclosures 1987–2005. *European Accounting Review* **19**(2), 247-274.
- Li, L., Yang, Y., Tang, D., 2015, Carbon information disclosure of enterprises and their value creation through market liquidity and cost of equity capital. *Journal of Industrial Engineering and Management* **8**(1), 137-151.
- Li, Y., Richardson, G., Thornton, D., 1997, Corporate disclosure of environmental liability information: theory and evidence. *Contemporary Account Research* **14**(3), 435–74.
- Lindblom, C.K., 1994, The implications of organizational legitimacy for corporate social performance and disclosure. In: Critical perspectives on accounting conference, New York (Vol. 120).
- Liu, X., Anbumozhi, V., 2009, Determinant factors of corporate environmental information disclosure: an empirical study of Chinese listed companies. *Journal of Cleaner Production* **17**(6), 593-600.
- Liu, Z.G., Lui, T.T., McConkey, B.G., Li, X., 2011, Empirical analysis on environmental disclosure and environmental performance level of listed steel companies. *Energy Procedia* **5**, 2211-2218
- MacLean, R., Gottfrid, R., 2000, Corporate environmental reports: Stuck management processes hold back real progress. *Corporate Environmental Strategy* **7**(3), 244-255.

Malolitneva, V., Dzhabrailov, R., 2020. Implementation of the environmental policy objectives within the public procurement system in the context of the EU-Ukraine Association Agreement. *International Journal of Ecology and Development* **35**(2), 78-92.

MARPOL, <http://www.imo.org/en/About/Conventions/ListOfConventions/Pages.aspx>, (accessed 25 November 2021)

Meadows, D.H., Meadows, D.L., Randers, J., Behrens, W.W., 1972, *The Limits to Growth*. New York: Universe Books.

Medawar, C., 1976, The social audit: a political view. *Accounting, Organizations and Society* **1**(4), 389-394.

Murray, A., Sinclair, D., Power, D., Gray, R., 2006, Do financial markets care about social and environmental disclosure? Further evidence and exploration from the UK. *Accounting, Auditing and Accountability Journal* **19**(2), 228-255.

Newson, M., Deegan, C., 2002, Global expectations and their association with corporate social disclosure practices in Australia, Singapore, and South Korea. *The International Journal of Accounting* **37**(2), 183-213.

Nishitani, K., Kokubu, K., 2012, Why does the reduction of greenhouse gas emissions enhance firm value? The case of Japanese manufacturing firms. *Business Strategy and the Environment* **21**(8), 517-529.

O'Donovan, G., 1999, Managing legitimacy through increased corporate environmental reporting: an exploratory study. *Interdisciplinary Environmental Review* **1**(1), 63-99.

O'Hanlon, J., Peasnell, K., 1998, Wall Street's contribution to management accounting: the Stern Stewart EVA® financial management system. *Management Accounting Research* **9**(4), 421-444.

Patten, D.M., 1992, Exposure, legitimacy, and social disclosure. *Journal of Accounting and Public Policy* **10**(4), 297-308.

Patten, D.M., 2002, The relation between environmental performance and environmental disclosure: a research note. *Accounting, Organizations and Society* **27**(8), 763-773.

Pearce, D., Markandya, A., Barbier, E., 1989, *Blueprint for a Green Economy* (Vol. 1). London: Earthscan.

Pechpoothong, S., Naenna, T., 2019, OEMs Logistics and its Environments Scorecard Development for Assessing Present and Future Performance. *International Journal of Ecology and Development* **34**(3), 22-29.

Pedron, A.P.B., Macagnan, C.B., Simon, D.S., Vancin, D.F., 2021, Environmental disclosure effects on returns and market value. *Environment, Development and Sustainability* **23**, 4614-4633.

Plumlee, M., Brown, D., Hayes, R.M., Marshall, R.S., 2015, Voluntary environmental disclosure quality and firm value: Further evidence. *Journal of Accounting and Public Policy* **34**(4), 336-361.

Puopolo, G.W., Teti, E., Milani, V., 2015, Does the market reward for going green? *Journal of Management Development* **34**(6), 729 – 742.

Rahman, S.A., Yusoff, R., Mohamed, W.N., 2009, Environmental disclosure and financial performance: An empirical study of Malaysia, Thailand and Singapore. *Social and Environmental Accountability Journal* **29**(2), 46-58.

Rawls, J., 2001, *Justice as Fairness: A Restatement*. MA, USA: Harvard University Press.

Richardson, A., Welker, M., 2001, Social disclosure, financial disclosure and the cost of equity capital. *Accounting, Organizations and Society* **26**(7), 597-616.

- Richardson, A.J., Welker, M., Hutchinson, I.R., 1999, Managing capital market reactions to corporate social responsibility. *International Journal of Management Reviews* **1**(1), 17-43.
- Roberts, R.W., 1992, Determinants of corporate social responsibility disclosure: an application of stakeholder theory. *Accounting, Organizations and Society* **17**(6), 595-612.
- Rockström, J., Steffen, W., Noone, K., Persson, A., Chapin, F.S., Lambin, E., Lenton, T., Scheffer, M., Folke, C., Schellnhuber, H., Nykvist, B., de Wit, C., Huges, T., van der Leeuw, S., Rodhe, H., Sorlin, S., Snyder, P., Costanza, R., Svedin, U., Falkenmark, M., Karlberg, L., Corell, R., Fabry, V., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P., Foley, J., 2009, Planetary boundaries: exploring the safe operating space for humanity. *Ecology and Society* **14**(2), 32.
- Rogerson, W.P., 1997, Intertemporal cost allocation and managerial investment incentives: A theory explaining the use of economic value added as a performance measure. *Journal of Political Economy* **105**(4), 770-795.
- Rosen, C.M., 2001, Environmental strategy and competitive advantage: an introduction. *California Management Review* **43**(3), 8-15.
- Sahnewaz, S.M., 2019, Re-examining the Environmental Kuznets Curve Hypothesis in India: The Role of Coal Consumption, Financial Development and Trade Openness," MPRA Paper 107845, University Library of Munich, Germany, revised Dec 2019.
- Saka, C., Oshika, T., 2014, Disclosure effects, carbon emissions and corporate value. *Sustainability Accounting, Management and Policy Journal* **5**(1), 22-45.
- Schaltegger, S., Burritt, R., 2000, *Contemporary Environmental Accounting: Issues, Concepts and Practice*. Sheffield, UK: Greenleaf.
- Schaltegger, S., Wagner, M., 2006, Integrative management of sustainable performance, measurement and reporting. *International Journal of Accounting, Auditing and Performance Evaluation* **3**, 1-19.
- Scott, T.W., 1994, Incentives and disincentives for financial disclosure: Voluntary disclosure of defined benefit pension plan information by Canadian firms. *Accounting Review* **69**(1), 26-43.
- Sharma, S., Vredenburg, H., 1998, Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal* **19**(8), 729-753.
- Shearer, T., 2002, Ethics and accountability: from the for-itself to the for-the-other. *Accounting, Organizations and Society* **27**(6), 541-573.
- Shrivastava, P., 1995, The role of corporations in achieving ecological sustainability. *Academy of Management Review* **20**(4), 936-960.
- Simerly, R.L., Li, M., 2000, Environmental dynamism, capital structure and performance: a theoretical integration and an empirical test. *Strategic Management Journal* **21**(1), 31-49.
- Smith, M., Yahya, K., Amiruddin, A., 2007, Environmental disclosure and performance reporting in Malaysia. *Asian Review of Accounting* **15**(2), 185-199.
- Soedjatmiko, S., Tjahjadi, B., Soewarno, N., 2021. Do environmental performance and environmental management have a direct effect on firm value? *The Journal of Asian Finance, Economics, and Business* **8**(1), 687-696.
- Solomon, A., Lewis, L., 2002, Incentives and disincentives for corporate environmental reporting. *Business Strategy and the Environment* **11**(3), 154-169.
- Stanwick, S.D., Stanwick, P.A., 2000, The relationship between environmental disclosures and financial performance: an empirical study of US firms. *Eco-Management and Auditing* **7**(4), 155-164.
- Starik, M., Rands, G.P., 1995, Weaving an integrated web: Multilevel and multisystem perspectives of ecologically sustainable organizations. *Academy of Management Review* **20**(4), 908-935.

- Stern, J., Stewart, G.B., Chew, D., 1995, The EVA™ Financial Management System. *Journal of Applied Corporate Finance* **8**(2), 32-46.
- Suttipun, M., Stanton, P., 2012, Determinants of environmental disclosure in Thai corporate annual reports. *International Journal of Accounting and Financial Reporting* **2**(1), 99-115.
- Tang, L., Li, H., 2009, Corporate social responsibility communication of Chinese and global corporations in China. *Public Relations Review* **35**(3), 199-212.
- Thomson, I.H., Dey, C., Russell, S., 2011, Exploring the potential of shadow accounts in problematising institutional conduct. In: Ball A and Osbourne S (eds), *Social Accounting and Public Management: Accountability for the Common Good* (Critical Studies in Public Management). Abingdon: Routledge, pp. 64-79.
- Ullmann, A.A., 1985, Data in search of a theory: A critical examination of the relationships among social performance, social disclosure, and economic performance of US firms. *Academy of Management Review* **10**(3), 540-557.
- UN, <http://www.un.org/en/index.html>, (accessed 20 November 2021)
- UNCCD, <https://www.unccd.int/>, (accessed 25 November 2021)
- UNCSD, <https://sustainabledevelopment.un.org/csd.html>, (accessed 27 November 2021)
- UNECE, <https://unece.org/mission>, (accessed 12 November 2021)
- UNEP, <http://www.unep.org/>, (accessed 22 November 2021)
- Uwuigbe, U., Uadiale, O.M., 2011, Corporate social and environmental disclosure in Nigeria: A comparative study of the building material and brewery industry. *International Journal of Business and Management* **6**(2), 258-264.
- Uyar, A., Kılıç, M., 2012, The influence of firm characteristics on disclosure of financial ratios in annual reports of Turkish firms listed in the Istanbul Stock Exchange. *International Journal of Accounting, Auditing and Performance Evaluation* **8**(2), 137-156.
- Wang, M.C., 2016, The relationship between environmental information disclosure and firm valuation: the role of corporate governance. *Quality and Quantity* **50**(3), 1135-1151.
- Wiseman, J., 1982, An evaluation of environmental disclosures made in corporate annual reports. *Accounting, Organizations and Society* **7**(1), 53-63.
- Yuan, Z., Khakzad, N., Khan, F., Amyotte, P., 2015, Risk-based optimal safety measure allocation for dust explosions. *Safety Science* **74**, 79-92.