Determinants of Environmental Disclosure by Gulf Cooperation Council Companies

Review of Integrative Business & Economics Research

Ilyes Charchafa
Setif 1 University, Setif, Algeria

Bilal Kimouche*
Startups Financing Lab in light of the Knowledge Economy (SFKE); Université de Skikda, Skikda, Algeria

ABSTRACT

This paper explores whether company characteristics and corporate governance mechanisms drive Corporate Environmental Disclosure (CED) within Gulf Cooperation Council (GCC) countries. The data was obtained from the annual reports of 112 companies during 2015-2019 using the content analysis method. An unweighted disclosure index was developed to assess CED depending on the Global Reporting Initiative's (GRI) fourth-generation. The effects of independent variables on CED were tested using multiple regression. The findings revealed a positive influence of board independence on CED, while the effect of board size was negative, and the effect of audit committee independence was insignificant. Furthermore, the findings showed positive influences of company characteristics (leverage, size, and industry) on CED. The study provides valuable confirmation for the literature on CED by analysing the experiences of companies listed among GCC markets. It is also the first to explore the link between CED and audit committee independence in that context. The study employs a comprehensive approach by using the guidelines provided by the GRI fourth generation and analysing a larger sample size. While focused on the GCC region, the findings contribute more broadly to the literature on CED, deepening the theoretical understanding of the mechanisms driving CED across global firms.

Keywords: Environmental disclosure, Corporate governance, Company characteristics, Gulf Cooperation Council companies.

Received 17 June 2023 | Revised 2 October 2023 | Accepted 15 November 2023.

1. INTRODUCTION

Corporate environmental disclosure (CED) is a crucial research subject, along with the increasing public awareness of the environment, which requires all parties to care more about it (Hidayah and Kartikadevi, 2021). CED is a critical element of corporate sustainability practices; it enables companies to effectively communicate their environmental impacts and management practices, promoting transparency, building trust, and empowering stakeholders to make rational decisions (Azzone *et al*., 1997; Benlemlih *et al*., 2016). The Gulf Cooperation Council (GCC) countries face significant environmental challenges that pose risks to the safety and well-being of their populations and the preservation of their ecosystems. These challenges include desertification, marine pollution, water scarcity, air pollution, biodiversity loss, and climate change (Zaidan *et*

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

al., 2019). Consequently, the importance of CED has gained growing recognition in the region during the last decade (Gerged *et al*., 2020).

Despite this recognition, CED practices in the GCC countries are still in their early stages (Alazzani *et al*., 2019), with more relying on voluntary initiatives and frameworks than comprehensive laws or regulations. Additionally, previous research on CED has largely focused on developed countries (Burgwal and Vieira, 2014; Bello and Ogungbenle, 2022), leaving a gap in our understanding regarding emerging markets such as the GCC countries. Furthermore, the distinctive attributes of the GCC markets, including environmental challenges, reliance on oil and gas resources, diverse industries, and distinct cultural values and regulatory frameworks, make them an ideal choice for studying our research topic.

This study contributes to the literature about CED by exploring factors influencing CED in GCC countries. Specifically, it investigates the role of company properties and governance mechanisms in reinforcing environmental disclosure. For that, an analysis of the CED practices among GCC companies was conducted to examine the influence of governance mechanisms (board and audit committee) as well as company properties (size, leverage, and industry type) on the CED level. The study expects that stronger corporate governance mechanisms and certain company characteristics will be associated with higher levels of environmental disclosure.

The study seeks to provide empirical evidence about the CED determinants in the GCC region and identify areas for improvement towards more transparent and sustainable practices. The study is important given the pressing environmental challenges facing the GCC countries and the need for companies to be more responsible for their environmental consequences. The findings are relevant not only to institutional regulators and researchers in the GCC region but also to managers, investors, and other stakeholders interested in promoting sustainable business practices globally.

The study employs an unweighted disclosure index depending on the guidance reported by the GRI fourth generation to assess the CED level for 112 non-financial companies listed on the GCC markets during 2015-2019. The study's contribution is twofold: it focuses exclusively on CED and investigates the influence of audit committee independence on such disclosure. However, the study has some limitations, including the use of cross-sectional data and reliance on annual reports as the sole source of CED. Future studies can employ longitudinal data and explore CED through other communication channels, like sustainability reports or company websites.

Nevertheless, this study provides empirical evidence for regulators, stakeholders, and companies operating in the GCC region, emphasising the role of company characteristics and governance mechanisms in promoting environmental disclosure. The study's findings extend beyond geographical boundaries by providing valuable insights into the mechanisms driving CED in global firms, deepening the theoretical understanding of this crucial aspect of corporate sustainability.

The remainder of this paper is structured into the following sections: Section 2 clarifies the CED concepts; Section 3 develops the hypotheses; Section 4 details the methods and materials employed to process the data and achieve the findings summarised in Section 5. Finally, Section 6 shows the explanations, limitations, implications, and horizons of research on the topic.

2. LITERATURE REVIEW

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

CED, as an evolving concept, was defined in different ways. The "*Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting*" (UN ISAR) defines CED as the information that a company publicly discloses through key channels or mediums concerning its engagement with the natural environment (UN ISAR, 1992). Berthelot *et al*. (2003) provide more details, stating that CED includes a broad range of information that covers environmental management activities. This includes information about historical and current environmental practices, plans to manage environmental impacts, and the financial implications of past, present, and future environmental actions and decisions. Gray *et al*. (1996) define CED as the process of reporting the environmental impacts of a company's actions to related parties and society as a whole, stressing the importance of considering the audience when discussing CED. To sum up, it can be inferred that CED is the process by which companies communicate information about their performance and impacts on the environment through different channels to a wide range of stakeholders.

In GCC countries, CED is a growing concern as regulations and guidelines have been introduced to promote environmental, social, and governance (ESG) reporting. For example, integrated ESG guidance was introduced by the Qatar Stock Exchange in December 2016 (Qatar Stock Exchange, 2016), and more recently, the publishing of annual ESG reports by listed companies was mandated by the Dubai Financial Market and the Abu Dhabi Securities Exchange in January 2020 (UAE Securities and Commodities Authority, 2020). Additionally, the Bahrain Bourse, Boursa Kuwait, and the Saudi Tadawul Group have launched voluntary ESG reporting guidelines for listed companies in June 2020 (Bahrain Bourse, 2020), September 2021 (Boursa Kuwait, 2021), and October 2021 (Saudi Tadawul Group, 2021), respectively.

The increased focus on CED is a reflection of the rising pressures on companies to be more accountable and exhibit more transparency regarding their environmental practices, which can build trust with stakeholders (Benlemlih *et al*., 2016) and enhance the company's reputation. CED enables companies to communicate their environmental practices and impacts to a wide audience, allowing stakeholders to make informed decisions (Azzone *et al*., 1997; Faturohman *et al*., 2021). This can lead to strengthening relationships with stakeholders (Gray *et al*., 1995) as well as moderate the negative impacts of environmental events on the company's image (Deegan *et al*., 2000).

CED can shape public perception by showcasing the commitment of the company to environmental responsibility (Dixon *et al*., 2005), resulting in stakeholder approval and support (Gray *et al*., 1996). Moreover, CED can boost sustainable development by aligning corporate actions with global sustainability goals (United Nations, 2015), helping companies managing environmental risks and opportunities towards a sustainable strategy (Carbon Disclosure Project (CDP), 2022). This can assist in the fulfilment of social and environmental objectives (United Nations, 2015; CDP, 2022).

Given the critical importance of CED, there has been a surge in research exploring the factors influencing such practices in developed, emerging, and developing countries. Although various factors have been identified, the evidence of their impact on CED practices remains inconclusive. In Malaysia, Buniamin *et al*. (2008) investigated the association of CED with the directors' board independence, management ownership, CEO duality, and board size for 243 listed companies in 2005. They showed that CED was only associated with board size. Furthermore, they revealed that industry type and company size as control variables positively impact CED.

An investigation of 229 UK-listed companies from 2004 to 2007 by Aburaya (2012) suggested that higher levels of CED were associated with lower independence of

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

directors, separate CEO and chairman roles, and ownership concentration. However, no significant association was recorded with the size of the board and the independence of the audit committee. Furthermore, company size, industry, leverage, and liquidity positively impacted CED, while profitability and systematic risk showed no impacts, with a negative impact of cross-listing.

In Denmark, Andrikopoulos and Kriklani (2013) examined the determinants of CED level for 136 companies in 2009. The results showed a positive association between CED and company size, leverage, and market-to-book ratio. They also suggested that companies with higher levels of profitability present lower levels of CED. An investigation by Ienciu (2012) for 64 Romanian listed companies in 2010 found a positive correlation between CED and board independence and a negative correlation with board size. Additionally, the study found no significant correlation between CED level and dual roles or audit committees.

Burgwal and Vieira (2014) indicated that industry type and company size positively impacted the CED level for 28 Hollandaise-listed companies in 2008. However, they did not record any impact from profitability on the CED level. Juhmani (2014) revealed that company size and leverage had positive influences on environmental and social disclosure through the websites of Bahrain-listed companies during the period 2012, while other factors such as company age, profitability, and company size were not found to affect environmental and social disclosure.

Chaklader and Gulati (2015) examined factors affecting the CED level for 50 Indian-listed companies during 2014-2018. The results showed that CED level was positively correlated with company size and environmental certification. Contrarily, the correlations of CED level with profitability, industry type, financial leverage, and multinational status were not statistically significant.

Welbeck *et al*. (2017) analysed factors affecting CED levels for 17 Ghanaian-listed companies from 2003 to 2012. The findings indicated that environmentally sensitive companies showed higher levels of disclosure compared to less sensitive companies. The study specified that industry type, company size, auditor type, and company age had significant impacts on the level of environmental disclosure.

An investigation derived for 11 listed companies during 2011-2015 in Indonesia by Nguyen and Tran (2022) suggested that factors like the board of directors, media coverage, and company size had a positive influence on the CED level. Whereas there was no correlation found between managerial ownership, profitability, and CED.

In Turkey, Kalash (2020) examined factors influencing public CED for 66 listed companies during 2014-2018 and found that environmental disclosure was positively related to leverage, company size, and high agency costs. However, the impacts of industry type, profitability, investment opportunities, business risks, and information asymmetry were not statistically significant.

In Saudi Arabia, Ezzeddine *et al*. (2020) studied the CED determinants for 63 listed companies from 2016 to 2018. The rsults revealed that CED is highly determined by the existence of an environmental committee and company age. Moreover, the impact of the CEO's duality on CED was positive, while the impact of board size was negative with insignificant impacts of board independence and company size.

In the GCC context, three relevant studies were identified. The first study by Khasharmeh and Suwaidan (2010) examined the social disclosure level of 60 listed companies during the fiscal year 2006 and showed that company size was the only determinant of social disclosure. The second study by Mousa *et al*. (2018) investigated the association of corporate social responsibility (CSR) disclosure with corporate

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

governance mechanisms for 246 listed companies during the 2016 financial year. The study revealed that board independence and board size were significant determinants of CED. Furthermore, CED is not determined or controlled by company characteristics (company size, profitability, and industry type).

The third study by Arayssi *et al*. (2020) explored the relationship of environmental, social, and governance (ESG) disclosure with board composition for 184 observations of annual reports during 2008-2017. The findings revealed that enhanced social responsibility reporting was positively associated with higher levels of board independence and female directors. In contrast, the role duality was found to be less supportive of executing and disclosing ESG activities. The findings also revealed that company size, profitability, and age had positive relationships with social responsibility, while company leverage had no effect.

This study extends the research about CED in the GCC context by investigating the practices of listed companies in the region. Firstly, this study is among the few that exclusively focuses on environmental disclosure, whereas previous studies in the region have included it as a part of broader social disclosure themes (Khasharmeh and Suwaidan, 2010; Mousa *et al*., 2018; Arayssi *et al*., 2018). This provides a more in-depth understanding of the subject matter.

Secondly, this study is the first to analyse the impact audit committee independence on CED in the GCC context, offering valuable insights into factors that shape such practices. Furthermore, previous studies in the region have used either self-constructed indexes (Khasharmeh and Suwaidan, 2010; Mousa *et al*., 2018) or third-party sustainability ratings (Arayssi *et al*., 2020) to assess CED. However, this study takes a more comprehensive approach by developing an index based on the guidelines provided by the GRI fourth generation, which includes 36 items and has been widely tested in developed countries.

Lastly, previous studies in the GCC context analysed small samples, whereas our study analysed a larger sample size, including 429 firm-year observations from 2015 to 2019, enabling us to draw more robust conclusions.

3. HYPOTHESIS DEVELOPMENT

The literature about CED has employed several theoretical perspectives. However, the present study adopts a multi-theoretical framework for a better understanding of the phenomenon in the GCC context (Van Der Laan, 2009); specifically, the study employs both legitimacy theory and agency theory. These different theories should not be perceived as conflicting perspectives but as different views to comprehend organisational decisions related to environmental disclosure (Reverte, 2009).

3.1. The Legitimacy Theory

According to the legitimacy theory, organisations have a social connection, and they are expected to comply with societal norms. Additionally, organisations must take measures to show that their activities are in line with societal expectations (Deegan, 2002). The incompatibility of an organisation's actions and values with those prevalent in society causes a legitimacy gap (Lindblom, 1994). That gap poses a significant threat to corporate legitimacy and can lead to negative consequences for the organisation and its reputation, such as a reduction in demand for their products, the elimination of labour and financial capital from factory suppliers, an increase in taxes and fines, and laws through lobbying efforts (Deegan, 2002).

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

To maintain and strengthen their position, organisations legitimise their actions by divulging different environmental and social activities (Branco and Rodrigues, 2008). Therefore, companies can demonstrate their commitment to societal norms and expectations by providing information about their operations, actions, and environmental and social responsibilities (Milne and Patten, 2002). By doing so, they are addressing the gap between company actions and social concerns in the eyes of stakeholders and society (Deegan *et al*., 2000).

3.2. The Agency Theory

Agency theory is a framework used to explain the principal-agent relationship in a company (Jensen and Meckling, 1976). The owners, as the principals, provide resources and require information to evaluate performance, while managers, as the agents, possess decision-making authority and information about the company. The theory posits that every party acts to maximise their benefits, leading to a lack of goal convergence. This can generate agency problems such as moral hazard, where agents take risks because they do not bear the full consequences of their actions, and adverse selection, where agents have better information about their abilities or intentions. These problems can result in agency costs for two parties, including expenses incurred to establish incentives, bonding, and monitoring mechanisms to align the agent's actions with the principal's interests and mitigate agency problems (Jensen and Meckling, 1976).

In the context of this study, voluntary disclosures, particularly those related to the company's environmental performance, can address asymmetric information between the agency parties, thus reducing conflicts of interest. CED is a specific type of voluntary disclosure that provides an opportunity for managers to demonstrate their best actions in line with shareholders' interests by providing insight about the company's environmental activities (Chaklader and Gulati, 2015). This allows managers to signal shareholders about their sensibility to sustainable practices and minimise negative impacts on shareholders' wealth (Aburaya, 2012). As a result, managers can show their commitment to environmental responsibility, and shareholders can make more informed decisions (Azzone *et al*., 1997), thereby reducing agency costs.

3.3. Hypothesis Development

3.3.1. Board Size

Board size can significantly impact CED (Buniamin *et al*., 2008) due to its crucial role in monitoring management performance. According to Aburaya (2012), the larger the board size, the more monitoring capacity it has since larger boards bring in a variety of expertise and better monitoring abilities, which can ameliorate the reporting system's efficiency and enhance the quality and level of CED (Xie *et al*., 2003; Akbas, 2016).

However, some researchers suggest that larger boards may not be as effective. Cheng and Courtenay (2006) reveal that a large board size may negatively influence board performance, while Jensen (1993) argues that a large board can reduce the effectiveness of the board and increase the potentiality of CEOs to control and manipulate the board. Although the monitoring abilities of the board rise with its expansion, poor communication and decision-making can also appear.

A too-large board may have lower monitoring capabilities due to the dispersion of opinions and non-cohesiveness of viewpoints (Cheng and Courtenay, 2006). However, these difficulties can be mitigated by the ability to benefit from the diverse range of

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

perspectives that a larger board can provide by using subcommittees that can enhance coordination and communication among board members (Aburaya, 2012).

The relationship between board size and CED was explored by several researchers with mixed results. Some studies present a positive correlation between board size and CED (Buniamin *et al*., 2008; Akbas, 2016), while other studies show a negative correlation (Ienciu, 2012; Ezzeddine *et al*., 2020), and some others have found no correlation (Aburaya, 2012; Cheng and Courtenay, 2006). In the GCC context, Mousa *et al*. (2018) suggested a positive correlation between CED level and board size.

Depending on previous studies, the first hypothesis assumes that:

H1: A positive correlation exists between the level of CED and board size.

3.3.2. Independence of Board

The presence of independent directors is a key factor in ensuring effective monitoring of management since they can serve as oversight for management and prevent their potential opportunistic behaviours (Haniffa and Cooke, 2002). Literature suggests that independent directors can help improve management monitoring by providing an external perspective, assist in personnel matters by providing expertise, and enhance transparency and disclosure by encouraging the company to be more forthcoming with information (Haniffa and Cooke, 2002; Cheng and Courtenay, 2006).

Independent directors are more interested in corporate responsibility regarding society and environment as they are not closely tied to the management of and may have a greater sense of social responsibility (Beniamine *et al*., 2012). This can promote better decision-making by management and help to guarantee that the company's goals are aligned with those of shareholders and other stakeholders, which in turn leads to a higher level of CED (Haniffa and Cooke, 2002; Aburaya, 2012).

Research on the relationship between CED and board independence has yielded varying results. Ienciu (2012) found a positive correlation between CED and board independence, while Aburaya (2012) documented a negative correlation. However, studies by Buniamin *et al*. (2008), Akbas (2016), Habbash (2016), and Ezzeddine *et al*. (2020) showed no significant relationship between environmental disclosure and the number of independent directors. In the GCC context, Arayssi *et al*. (2018) and Mousa *et al*. (2018) showed that a higher proportion of independent members on the board is linked to an increased CED. Starting from the literature and considering these findings, the second hypothesis assumes that:

H2: A positive correlation exists between the level of CED and the independence of the board of directors.

3.3.3. Audit Committee Independence

An audit committee can improve internal control systems, oversee the process of financial reporting, and control risks. The audit committee is a subset of the board of directors that is responsible for communicating with internal and external auditors and ensuring the interests of shareholders (Madhani, 2015; Farooq *et al*., 2018). Subsequently, the primary role of the audit committee is oversight, which helps to maintain the accuracy of reports (Xie *et al*., 2003; Madhani, 2015).

Considering the view of agency theory, the presence of independent directors in audit committees is expected to bring an outside perspective and reduce information asymmetry, which can enhance objectivity in decision-making (Xie *et al*., 2003; Aburaya, 2012). Therefore, audit committees should be composed of a majority of independent members, which supports credibility, transparency, and voluntary disclosure, including

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

environmental disclosure. This perspective is supported by prior research (Cheng and Courtenay, 2006; Albawwat, 2022), which provides evidence that the existence of independent members in the audit committee is related to higher levels of environmental disclosure. Therefore, the third hypothesis proposes that:

H3: A positive correlation exists between the level of CED and the independence of the audit committee.

3.3.4. Company Size

According to the legitimacy theory, the acceptance of society is a determinant factor in the existence of a company (Deegan, 2002). In particular, larger companies are deemed to be significant economic entities given the social and environmental effects of their operations (Hackston and Milne, 1996). As a result, companies are under increasing scrutiny from society and stakeholders (Juhmani, 2014). To maintain a good reputation and gain legitimacy in the perceptions of stakeholders and society, large companies are expected to communicate more disclosures about their social and environmental engagements (Hackston and Milne, 1996; Kalash, 2020).

Based on the results of prior research, a positive correlation between CED level and company size was widely established. Numerous studies have found that big companies tend to disclosure more about their environmental responsibilities and performance compared to smaller companies (Buniamin *et al*., 2008; Aburaya, 2012; Burgwal and Vieira, 2014; Sulaiman *et al*., 2014; Chaklader and Gulati, 2015; Habbash, 2016; Welbeck *et al*., 2017; Arayssi *et al*., 2018; Ardi and Yulianto, 2020; Kalash, 2020). However, some studies have found a negative correlation between CED and company size (Al-Tuwaijri *et al*., 2004), and some other studies have recorded an insignificant correlation (Juhmani, 2014; Mousa *et al*., 2018; Ezzeddine *et al*., 2020). Overall, the consensus in the literature agrees with the hypothesis that:

H4: A positive correlation exists between the level of CED and company size.

3.3.5. Company Leverage

Leverage, or the debt-to-equity ratio, has been found to significantly influence the company's risk profile and its CED level. Highly leveraged companies are often seen as riskier due to the higher intensity of fixed interest incurred by their capital (Sulaiman *et al*., 2014). This situation can be exacerbated if the company does not adopt social and environmental orientations (Deegan, 2002), leading current or potential stakeholders to reassess their relationships with the company (Sulaiman *et al*., 2014).

As argued by the legitimacy theory, companies may employ public disclosure as a tool to demonstrate their environmental efforts, legitimise their environmental and social contributions, and maintain positive relationships (Gray *et al*., 1996). This is particularly relevant for highly leveraged companies that may face more pressure from creditors to meet expectations on environmental issues and mitigate potential negative impacts on their relationships (Roberts, 1992). Furthermore, lenders have been found to prefer companies that prioritise sustainable disclosure practices and provide high-quality information (Hummel and Schlick, 2016). As such, to increase the legitimacy of their operations to creditors and other stakeholders, highly leveraged companies may choose to disclose more environmental information to the public (Boshnak, 2022).

The empirical results are mixed, where several studies have shown that the correlation between CED level and leverage is positive (Clarkson *et al*., 2008; Aburaya, 2012; Andrikopoulos and Kriklani, 2013; Juhmani, 2014; Sulaiman *et al*., 2014; Hummel and Schlick, 2016; Kalash, 2020; Boshnak, 2022). Other studies have shown that the

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

correlation is negative (Brammer and Pavelin, 2008; Habbash, 2016; Ardi and Yulianto, 2020). However, some other studies have shown that the correlation is insignificant (Brammer and Pavelin, 2008; Chaklader and Gulati, 2015; Arayssi *et al*., 2018). Drawing upon the literature and the empirical studies, the fifth hypothesis is proposed as follows:

H5: A positive correlation exists between CED level and company leverage.

3.3.6. Industry Type

The categorisation of industries depending on their level of environmental sensitivity helps to understand CED. Industries, such as fossil fuel production or chemical manufacturing, that have direct environmental effects are more environmentally sensitive (Newson and Deegan, 2002). Therefore, they are likely to experience increased pressure from stakeholders and society as a whole to continuously provide environmental disclosures (Deegan, 2002). This pressure is driven by the need to align operations with societal expectations and the heightened visibility of environmental issues such as emissions and natural disasters, which can increase stakeholder demands for transparency and accountability, as well as the threat of reputational damage and legal or regulatory requirements (Monteiro and Aibar-Guzmán, 2010; Brammer and Pavelin, 2008). As a result, companies operating in industries with higher environmental sensitivity are required to commit to environmental disclosure to mitigate negative reactions (Roberts, 1992; Deegan, 2002).

Empirical studies indicate heterogeneous findings regarding the relationship between CED and a company's industry type. Some studies suggest that companies in environmentally sensitive industries divulge more environmental disclosures (Hackston and Milne, 1996; Aburaya, 2012; Brammer and Pavelin, 2008; Buniamin *et al*., 2008; Burgwal and Vieira, 2014; Welbeck *et al*., 2017; Boshnak, 2022). However, other studies revealed an insignificant correlation between CED and a company's industry type (Chaklader and Gulati, 2015; Habbash, 2016; Mousa *et al*., 2018; Kalash, 2020). In light of these findings, the last hypothesis is proposed as follows:

H6: A positive correlation exists between CED level and company industry type.

4. METHODOLOGY

4.1. Data and Sample Selection

The study population encompasses all 739 companies listed on the GCC stock markets during the five years from 2015 to 2019. 126 companies as an initial sample were randomly selected after excluding financial companies due to their unique characteristics and differing requirements of disclosure, as well as companies with incomplete data. The final sample represents approximately 15.15% of the total population and includes 112 companies that operate in nine sectors, namely consumer goods, industrial, oil and gas, consumer services, basic materials, financial services, utilities, telecommunications, and technology.

Table 1 provides some characteristics of the studied companies. The data collected came from various sections of the annual reports obtained from the companies' online sources, including websites and stock exchange profiles. Information related to independent variables was sourced from the financial annual report section, while information on environmental responsibility was extracted from the company's social responsibility section of the annual report.

The collection of data was conducted using the content analysis method based on its reliability, validity, and repeatability as a method for measuring the quality and

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

quantity of disclosure (Branco and Rodrigues, 2008; Aburaya, 2012). This method was extensively used in studies on social and environmental reporting by companies (Gray *et al*., 1995) and has proven its effectiveness in collecting reliable CED data from annual reports (Andrikopoulos and Kriklani, 2013; Juhmani, 2014; Sulaiman *et al*., 2014; Hummel and Schlick, 2016; Kalash, 2020; Boshnak, 2022).

Table 1. Distribution of companies by country and environmental sensitivity of industry

	Listed companies	Examined companies	Environmentally Sensitive companies	Environmentally non-sensitive companies
Saudi Arabia	186	32	24	8
Kuwait	176	28	22	6
Oman	43	8	6	2
Qatar	45	9	5	4
UAE	185	30	21	9
Bahrain	38	5	3	2
Total	739	112	81	31

4.2. Model Specification

This study uses a multiple regression model to investigate the driving forces behind CED using ordinary least squares (OLS) estimation. The model incorporates several factors that are believed to impact CED levels, including board size (Bsize), the proportion of independent directors on the board (Bindep), audit committee independence (ACindep), company size (Fsize), company leverage (Fleverage), and industry type (InType). The model can be represented in the form of an equation as follows:

$$\begin{aligned} CEDI = {} & \alpha_0 + \alpha_1(Bsize) + \alpha_2(Bindep) + \alpha_3(ACindep) + \alpha_4(Fsize) \\ & + \alpha_5(Fleverage) + \alpha_6(InType) + \varepsilon \end{aligned} \quad (2)$$

Where α_0 is an intercept; α_1, α_2, α_3, α_4, α_5, and α_6 are the parameters of the independent variables (Bsize, Bindep, ACindep, Fsize, Fleverage, and InType); ε is the error term.

4.3. Dependent Variable Measurement

The measurement of the CED level was conducted using an unweighted disclosure index based on a dichotomous approach. The index was prepared using the GRI fourth generation guidance as a well-known and widely recognised standard for sustainability reporting (GRI, 2013), providing a standard and comparable measure of CED.

Furthermore, this framework has been utilised in many previous studies to evaluate CED (Clarkson *et al*., 2008; Welbeck *et al*., 2017; Nguyen and Tran, 2022; Ezzeddine *et al*., 2020; Nuskiya *et al*., 2021). By using the GRI framework in this study, the findings can be easily compared and contrasted with previous studies that used the same framework (Nuskiya *et al*., 2021).

The environmental dimensions checklist within the GRI framework is the focus of this study. The list contains six categories, each further divided into 34 sub-categories (items) (GRI, 2013). To record the existence or absence of items on the checklist, the companies' annual reports were manually reviewed. A dichotomous approach was used, with a score of 1 allocated for the existence of the item and 0 for its absence.

The unweighted dichotomous approach was adopted to emphasise the breadth of environmental disclosures rather than their relative importance, depth, or length

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

(Monteiro and Aibar-Guzman, 2010). Additionally, using an unweighted index increased objectivity in determining the weights of items (Aburaya, 2012).

The disclosure index (CED) was calculated as shown in Equation (1):

$$\text{CED index (CEDI)} \equiv \frac{\sum_{i=1}^{n} D_i}{M} \times 100 \quad (1)$$

Where CEDI is the corporate environmental disclosure index, which represents the CED level; D_i takes the value 1 if the item i is disclosed, otherwise 0; M is the score of the maximum applicable disclosure; n is the disclosed item number.

4.4. Independent Variables Measurement

In this study, corporate governance variables (board size, board independence, and audit committee independence) and corporate characteristics (company size, company leverage, and industry type) are examined as independent variables to determine their effect on corporate environmental disclosure. To accurately capture their impact, the methods of measurement for each variable have been drawn from prior studies (see, for example, Aburaya, 2012; Andrikopoulos and Kriklani, 2013; Juhmani, 2014; Sulaiman *et al*., 2014; Hummel and Schlick, 2016; Kalash, 2020; Boshnak, 2022). Table 2 summarises the measurement of independent variables.

Table 2. Measurement of independent variables

Variable	Measure
Board Size (Bsize)	Number of directors
Board Independence (Bindep)	Proportion of independent directors
Audit Committee Independence (ACindep)	Proportion of independent members on audit committee
Company Size (Fsize)	Natural logarithm of total assets
Company Leverage (Fleverage)	Debt-to-equity ratio
Industry Type (InType)	Dummy variable takes the value 1 if the company belongs to environmentally sensitive industry, otherwise 0.

5. RESULTS AND DISCUSSION

5.1. Descriptive Statistics

The descriptive statistics shown in Table 3 indicate a limited extent of CED among GCC companies. The average level of CED (CEDI) reached 0.461, suggesting that most of the companies do not disclose comprehensive environmental information. This result is in harmony with Alazzani *et al*. (2019), who concluded that environmental disclosures by GCC companies are still in their early stages and lag significantly compared to those of companies in developed countries. These results reveal that there is still considerable scope for amelioration in the CED level and compliance with corporate governance requirements in the GCC companies.

The boards comprise between 5 and 13 directors, with an average of 9 directors, which means that GCC companies have a medium-sized board. The independent directors represent 75.2%, on average, suggesting that the boards comprise a majority of

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

independent directors. The proportion of independent members on the audit committee varies between 0% and 100%, with an average of 67.48%, which represents a high percentage of independent members on those committees. However, it appears that some GCC companies have failed to appoint any independent members to their committees, contradicting the corporate governance codes in the region, which mandate at least one independent member on such committees (Shehata, 2015).

The size of companies measured by the logarithm of total assets reached 12.879 on average and is situated between 4.322 and 21.440. The leverage of companies measured by the debt-to-equity ratio reached 42.53% on average and is situated between 4.2% and 88.5%. Regarding sensitivity to the environment, the results indicate that the majority of companies (75%) operate in environmentally sensitive industries.

Table 3. Descriptive statistics for data variables

Variables	N	Mean	Std. Deviation	Min	Max
CEDI	560	0.461	0.124	0.043	0.665
Bsize	560	9.022	1.667	5	13
Bindep	560	0.752	0.284	0.111	1
ACindep	560	0.675	0.260	0	1
Fsize	560	12.879	3.362	4.322	21.440
Fleverage	560	0.425	0.135	0.042	0.885
InType	560	0.75	0.432	0	1

5.2. Correlation Matrix

Table 4 summarises the correlation results between the CED level index and the independent variables. It appears from the table that Bindep, Fsize, and InType have positive correlations with CEDI, which are significant at the 1% level, while the correlation between Fleverage and CEDI is positive and significant at the 5% level. However, the table indicates a negative correlation between Bsize and CEDI that is significant at the 1% level, which contradicts the study's expectations. Additionally, the findings indicate that the correlation between ACindep and CEDI is insignificant.

The results confirm the absence of multicollinearity issues in the model that becomes a serious problem when the correlations between explanatory variables are strong and significant. However, all the coefficients of correlation between the independent variables are insignificant or weak, except for the coefficient of correlation between Fleverage and Fsize, which is significant and reached 0.605. Additionally, the Variance Inflation Factors (VIF) shown in Table 5 did not exceed 1.748, which confirms the correlation results about the absence of multicollinearity issues.

Table 4. Correlation results

	CEDI	Bsize	Bindep	ACindep	Fsize	Fleverage	InType
CEDI	1						
Bsize	-0.342**	1					
Bindep	0.449**	-0.205*	1				
ACindep	0.252	-0.103	0.132	1			
Fsize	0.764**	-0.100	0.328*	0.171*	1		
Fleverage	0.521*	0.069	0.224	0.122	0.605**	1	
InType	0.262**	-0.226*	-0.009	0.115	0.083	0.002	1

** Significant at 1% (1-tailed).

* Significant at 5% (1-tailed).

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

5.3. Regression Results

Table 5 summarises the OLS regression results, showing that the F-value reached 38.311 and is significant at the 1% level, which means that the model is statistically significant. The determination coefficient reached 0.379, suggesting that the independent variables explain 37.90% of the variation in the CED level. Therefore, the model is statistically valid to explain the variation in the CED level in GCC companies.

The parameters show that CED is negatively correlated with board size at the 1% level, contradicting the first hypothesis that large boards require greater levels of environmental disclosure. Nevertheless, this result confirms previous studies by Ienciu (2012) and Ezzeddine *et al*. (2020) that also found an association of higher CED levels with smaller boards. Furthermore, this finding aligns with of agency theory and some scholars' conclusions that a smaller board size can enhance effectiveness and performance by reducing the challenges of organising and coordinating a large group of directors, allowing for better decision-making and oversight, which improves environmental disclosure (Jensen, 1993; Cheng and Courtenay, 2006).

On the other hand, a positive correlation exists between the proportion of independent directors and CED level at the 1% level of significance, which supports the second hypothesis and confirms the results of previous studies by Aburaya (2012), Ienciu (2012), Habbash (2016), Arayssi *et al*. (2018), and Mousa *et al*. (2018), who found that a higher CED level is associated with a higher proportion of independent directors. This result is also in line with the argument of agency theory regarding the effective role of independent directors in monitoring and controlling managers, requiring them to improve disclosure practices.

Concerning the independence of the audit committee, the findings show that the association of CED level with the independent members of the audit committee is statistically insignificant, contrary to the third hypothesis. This is not consistent with the argument of agency theory that a higher proportion of independent directors in the audit committee will promote CED. However, the result confirms the findings of Aburaya (2012), who showed that the relationship between audit committees and CED levels in UK companies is insignificant. This can be explained by the non-engagement of audit committees of GCC companies in overseeing the companies' environmental practices.

According to the results, CED level is positively correlated with company size at the 1% level of significance, which confirms the fourth hypothesis and the findings of many previous studies, like Buniamin *et al*. (2008), Khasharmeh and Suwaidan (2010), Aburaya (2012), Sulaiman *et al*. (2014), Habbash (2016), Arayssi *et al*. (2018), Ardi and Yulianto (2020), Kalash (2020), and Boshnak (2022). This result supports the view of legitimacy theory that there is an interest in larger companies to divulge more information about environmental responsibility and performance compared to smaller companies to gain legitimacy, maintain their reputation with stakeholders and society, and respond to institutional scrutiny.

Additionally, the findings reveal a positive correlation between CED level and company leverage at a significance level of 5%, which supports the fifth hypothesis and the findings of several studies, including Clarkson *et al*. (2008), Aburaya (2012), Andrikopoulos and Kriklani (2013), Sulaiman *et al*. (2014), Juhmani (2014), Hummel and Schlick (2016), Kalash (2020), and Boshnak (2022). This finding agrees with the assumption of legitimacy theory that highly leveraged companies tend to disclose more CED because they face pressure from creditors to address environmental issues and avoid potential negative impacts on their relationships.

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

The results also reveal that CED level is positively correlated with industry type at the 1% level, which supports the sixth hypothesis and the findings of several studies, such as Buniamin *et al*. (2008), Aburaya (2012), Burgwal and Vieira (2014), Welbeck *et al*. (2017), and Boshnak (2022). This finding aligns with the argument of legitimacy theory, which holds that companies in environmentally sensitive industries tend to communicate more environmental disclosures to mitigate negative reactions from stakeholders and society.

Table 5. Regression results

	Unstandardised Coefficients		T	Sig.	Collinearity	
	B	Standard Error			Tolerance	VIF
Intercept	-0.062	0.063	-0.974	0.106		
Bsize	-0.009	0.002	-3.727	0.001	0.883	1.132
Bindep	0.147	0.049	3.009	0.003	0.849	1.177
ACindep	0.038	0.030	1.281	0.203	0.949	1.054
Fsize	0.050	0.006	7.849	0.000	0.572	1.748
Fleverage	0.195	0.086	2.258	0.026	0.607	1.646
InType	0.070	0.023	2.980	0.004	0.921	1.085
Adj. R-Squared			0.379			
F-value			38.311			
Sig.			0.000			

5.4. Robustness test

CED often relates to past environmental activities, while strategic planning is dynamic and forward-looking (Liu and Anbumozhi, 2009). Therefore, there may be an inherent mismatch between the timing of the explanatory factors and environmental disclosure (Li *et al*., 2022). Following Liu and Anbumozhi (2009), a time lag analysis was conducted using a lagged regression model to test the robustness of findings, as the time lag, due to the inherent timing differences, addresses the issue that factors in one year may better explain environmental disclosures in the next year. Thus, the study recalculates the multivariate regression for environmental disclosure level using lagged values of two variables (company leverage and company size). The other factors were not lagged because they did not fluctuate much from year to year.

Table 6. Lagged Regression results

	Unstandardised Coefficients		T	Sig.	Collinearity	
	B	Standard Error			Tolerance	VIF
Intercept	-0.186	0.094	1.987	0.700		
Bsize	-0.008	0.004	-3.314	0.004	0.902	1.109
Bindep	0.327	0.072	3.536	0.000	0.931	1.074
ACindep	0.074	0.046	1.601	0.123	0.944	1.060
Fsize	0.007	0.009	5.781	0.002	0.635	1.531
Fleverage	0.082	0.036	1.527	0.012	0.654	1.510
InType	0.068	0.129	2.296	0.007	0.935	1.070
Adj. R-Squared			0.401			
F-value			8.339			
Sig.			0.000			

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

The lag was one year, so (t-1) values were used to explain environmental disclosure levels. The results of the lagged model presented in Table 6 remain similar to the main results in Table 5. The independent variables board size (p<1%), board independence (p<1%), company size (p<1%), company leverage (p<5%), and industry type (p<1%) remained significantly related to CED. Audit committee independence (p>5%) also continues to show no significant relationship. Therefore, it can be concluded that the lag time analysis supports the robustness of the original findings, despite the potential timing mismatch between the explanatory variables and environmental disclosure.

6. CONCLUSION

This study explores factors influencing CED levels in GCC companies through an investigation of 112 non-financial companies from GCC stock exchanges during the period 2015-2019. The CED level was measured employing an unweighted disclosure index developed depending on the GRI fourth generation guidance. The study reveals important insights into the role of company characteristics and governance mechanisms as determinants of CED level in GCC companies.

The findings indicate that board size affects CED level negatively, while board independence affects CED level positively in GCC countries. However, no significant effect of audit committee independence was recorded on the CED level. In terms of companies' characteristics, the study indicates that size, leverage, and industry type affect positively the CED level in GCC countries. They suggest that companies with smaller boards and more independent directors are better able to monitor environmental practices in GCC countries, requiring companies to report more environmental disclosures. Additionally, large and highly leveraged companies and those operating in environmentally sensitive industries tend to divulge more environmental disclosures to maintain a positive reputation and gain legitimacy among stakeholders.

This study examines the CED practices of listed companies in the GCC region, which is an emerging area with limited research on this topic. The contribution of this study is twofold: it focuses exclusively on CED and investigates the influence of audit committee independence on environmental disclosure. Moreover, the study employs a comprehensive disclosure index depending on the GRI fourth generation that provides pertinent guidelines, which helps to enhance the accuracy and comprehensiveness of the assessment of environmental disclosure. While contextualised in the GCC, the study's findings provide insights into the drivers of CED that extend beyond this specific region by highlighting factors that influence environmental disclosures across a range of companies and national contexts, expanding the theoretical understanding of CED as a crucial dimension of corporate sustainability globally.

However, the study has some limitations, including the use of cross-sectional data and reliance on annual reports as the sole source of data about CED. Therefore, future studies are required to employ longitudinal data, consider other channels of environmental disclosures, such as separate sustainability reports or company websites, and also investigate further the quality of environmental disclosures in GCC companies. Overall, the study provides valuable confirmation for stakeholders, regulators, and company managers in the GCC region, as it highlights the role of governance mechanisms and company properties in promoting environmental disclosure.

ACKNOWLEDGEMENT

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

The authors thank the anonymous reviewers for their pertinent and helpful comments and suggestions in enhancing the quality of this paper.

REFERENCES

[1] Aburaya, R. K. (2012). The Relationship between Corporate Governance and Environmental Disclosure: UK Evidence (Doctoral dissertation). Durham University, Durham, United Kingdom. http://etheses.dur.ac.uk/3456/

[2] Akbas, H. E. (2016). The Relationship between Board Characteristics and Environmental Disclosure: Evidence from Turkish Listed Companies. *South East European Journal of Economics and Business*, *11*(2), 7-19. https://doi.org/10.1515/jeb-2016-0007

[3] Alazzani, A., Aljanadi, Y., & Shreim, O. (2019). The Impact of Existence of Royal Family Directors on Corporate Social Responsibility Reporting: A Servant Leadership Perspective. *Social Responsibility Journal*, *15*(1), 120-136. https://doi.org/10.1108/SRJ-07-2017-0138

[4] Albawwat, A. H. (2022). The Influence of Audit Committee Characteristics on Voluntary Disclosure of Annual Financial Reports in Jordan. *Universal Journal of Accounting and Finance*, *10*(1), 161-170. https://doi.org/10.13189/ujaf.2022.100117

[5] 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*(5-6), 447-471. https://doi.org/10.1016/S0361-3682(03)00032-1

[6] Andrikopoulos, A., & Kriklani, N. (2013). Environmental Disclosure and Financial Characteristics of the Firm: The Case of Denmark. *Corporate Social Responsibility and Environmental Management*, *20*(1), 55-64. https://doi.org/10.1002/csr.1281

[7] Arayssi, M., Jizi, M., & Tabaja, H. H. (2020). The Impact of Board Composition on the Level of ESG Disclosures in GCC Countries, *Sustainability Accounting, Management and Policy Journal*, *11*(1), 137-161. https://doi.org/10.1108/SAMPJ-05-2018-0136

[8] Ardi, J., & Yulianto, A. (2020). The Effect of Profitability, Leverage, and Size on Environmental Disclosure with the Proportion of Independent Commissioners as Moderating. *Accounting Analysis Journal*, *9*(2), 123-130. https://doi.org/10.15294/aaj.v9i2.36473

[9] Azzone, G., Brophy, M., Noci, G., Welford, R., & Young, W. (1997). A Stakeholders' View of Environmental Reporting. *Long Range Planning*, *30*(5), 699-709. https://doi.org/10.1016/S0024-6301(97)00058-7

[10] Bahrain Bourse. (2020). ESG Reporting Guide. Bahrain Bourse. Retrieved from https://www.bahrainbourse.com/resources/files/Sustainability/ESG_11%20June%202020.pdf

[11] Bello, M. A., & Ogunnbenle, K. S. (2022). The Determinants of Environmental Disclosure in the Financial Report of Listed Companies in Nigeria. *Iconic Research and Engineering Journals*, *5*(9), 13-26. https://www.irejournals.com/formatedpaper/1703231.pdf

[12] Benlemlih, M., Shaukat, A., Qiu, Y., & Trojanowski, G. (2016). Environmental and Social Disclosures and Firm Risk. *Journal of Business Ethics*, *152*, 613-626. https://doi.org/10.1007/s10551-016-3285-5

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

[13] Berthelot, S., Cormier, D., & Magnan, M. (2003). Environmental Disclosure Research: Review and Synthesis. *Journal of Accounting Literature, 22*, 1-44.
[14] Boshnak, H. A. (2022). Determinants of Corporate Social and Environmental Voluntary Disclosure in Saudi Listed Firms. *Journal of Financial Reporting and Accounting, 20*(3/4), 667-692. https://doi.org/10.1108/JFRA-05-2020-0129
[15] Boursa Kuwait. (2021). Unified Direction for a Sustainable Future, ESG Reporting Guide. Boursa Kuwait. Retrieved from https://www.boursakuwait.com.kw/api/documents/boursa/1630909195602.pdf
[16] Brammer, S., J. & Pavelin, S. (2008). Factors Influencing the Quality of Corporate Environmental Disclosure. *Business Strategy and the Environment, 17*(2), 120-136. https://doi.org/10.1002/bse.506
[17] Branco, M. C., & Rodrigues, L. L. (2008). Factors Influencing Social Responsibility Disclosure by Portuguese Companies. *Journal of Business Ethics, 83*, 685-701. https://doi.org/10.1007/s10551-007-9658-z
[18] Buniamin, S., Alrazi, B., Johari, N., & Rahman, N. (2008). An Investigation of the Association between Corporate Governance and Environmental Reporting in Malaysia. *Asian Journal of Business and Accounting, 1*(2), 65-88.
[19] Burgwal, D. van de, & Vieira, R. J. O. (2014). Environmental Disclosure Determinants in Dutch Listed Companies. *Revista Contabilidade & Finanças, 25*(64), 60-78. https://doi.org/10.1590/S1519-70772014000100006
[20] Carbon Disclosure Project (CDP). (2022). Disclosing through CDP: The Business Benefits. Retrieved from https://cdn.cdp.net/cdp-production/comfy/cms/files/files/000/006/049/original/CDP_Benefits_of_Disclosure_brochure_2022.pdf
[21] Chaklader, B., & Gulati, P. A. (2015). A Study of Corporate Environmental Disclosure Practices of Companies Doing Business in India. *Global Business Review*, *16*(2), 321-335. https://doi.org/10.1177/0972150914564430
[22] Cheng, E. C. M., & Courtenay, S. M. (2006). Board Composition, Regulatory Regime and Voluntary Disclosure. *The International Journal of Accounting*, *41*(3), 262-289. https://doi.org/10.1016/j.intacc.2006.07.001
[23] 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*(4-5), 303-327. https://doi.org/10.1016/j.aos.2007.05.003
[24] Deegan, C. (2002). Introduction the Legitimising Effect of Social and Environmental Disclosures – A Theoretical Foundation. *Accounting, Auditing & Accountability Journal*, *15*(3), 282-311. https://doi.org/10.1108/09513570210435852
[25] Deegan, C., Rankin, M., & Voght, P. (2000). Firms' Disclosure Reactions to Major Social Incidents: Australian Evidence. *Accounting Forum*, *24*(1), 101-130. https://doi.org/10.1111/1467-6303.00031
[26] Dixon, R., Mousa, A. G., & Woodhead, A. (2005). The Role of Environmental Initiatives in Encouraging Companies to Engage in Environmental Reporting. *European Management Journal*, *23*(6), 702-716. https://doi.org/10.1016/j.emj.2005.10.014
[27] Ezzeddine, B. M., Garoui, N., & Sweiti, I. (2020). On the Determinants of Environmental Information Disclosure: Evidences from Industrial Saudi Listed Firms. *Agrociencia Journal*, *54*(1), 62-78. https://ssrn.com/abstract=3667320

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

[28] Farooq, M. U., Kazim, I., Usman, M., & Latif, I. (2018). Corporate Governance and Audit Fees: Evidence from a Developing Country. *Pakistan Journal of Commerce and Social Sciences*, *12*(1), 94-110. https://hdl.handle.net/10419/188337
[29] Faturohman, T., Nugraha, T. H., & Irawan, A. (2021). Corporate Social Responsibility Disclosure and Islamic Bank Profitability (Evidence from Indonesia). *Review of Integrative Business and Economics Research*, *10*(s1), 369-399. http://buscompress.com/riber-10-s1.html
[30] Gerged, A., Beddewela, E., & Cowton, C. (2020). Is Corporate Environmental Disclosure Associated with Firm Value? A Multi-Country Study of Gulf Cooperation Council Firms. *Business Strategy and the Environment, 30*(1), 1-19. https://doi.org/10.1002/bse.2616
[31] Global Reporting Initiative. (2013). G4 Sustainability Reporting Guidelines - Implementation Manual. Retrieved from https://respect.international/g4-sustainability-reporting-guidelines-implementation-manual/
[32] Gray, R., Owen, D. L., & Adams, C. (1996). Accounting and Accountability: Changes and Challenges in Corporate and Social Reporting. London: Prentice-Hall Europe.
[33] Gray, R., Kouhy, R., & Lavers, S. (1995). Corporate Social and Environmental Reporting: A Review of the Literature and a Longitudinal Study of UK Disclosure. *Accounting, Auditing & Accountability Journal*, *8*(2), 47-77. https://doi.org/10.1108/09513579510146996
[34] Habbash, M. (2016). Corporate Governance and Corporate Social Responsibility Disclosure: Evidence from Saudi Arabia. *Social Responsibility Journal*, *12*(4), 740-754. https://doi.org/10.1108/SRJ-07-2015-0088
[35] Hackston, D., & Milne, M. J. (1996). Some Determinants of Social and Environmental Disclosures in New Zealand Companies. *Accounting, Auditing & Accountability Journal, 9*(1), 77-108. https://doi.org/10.1108/09513579610109987
[36] Haniffa, R. M., & Cooke, T. E. (2002). Culture, Corporate Governance, and Disclosure in Malaysian Corporations. *ABACUS, 38*(3), 317-349. https://doi.org/10.1111/1467-6281.00112
[37] Hidayah, E., & Kartikadevi, A. (2021). The Analysis of Sustainability Report and Its Effects on Company Performance and Company Value. *Review of Integrative Business and Economics Research*, *10*(s1), 40-54. http://buscompress.com/riber-10-s1.html
[38] Hummel, K., & Schlick, C. (2016). The Relationship between Sustainability Performance and Sustainability Disclosure – Reconciling Voluntary Disclosure Theory and Legitimacy Theory. *Journal of Accounting and Public Policy, 35*(5), 455-476. https://doi.org/10.1016/j.jaccpubpol.2016.06.001
[39] Ienciu, I.-A. (2012). The Relationship between Environmental Reporting and Corporate Governance Characteristics of Romanian Listed Entities. *Journal of Accounting and Management Information Systems*, *11*(2), 267-294. http://online-cig.ase.ro/RePEc/ami/articles/11_2_11.pdf
[40] Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, *3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X
[41] Jensen, M. C. (1993). The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems. *The Journal of Finance*, *48*(3), 831-880. https://doi.org/10.1111/j.1540-6261.1993.tb04022.x

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

[42] Juhmani, O. (2014). Determinants of Corporate Social and Environmental Disclosure on Websites: The Case of Bahrain. *Universal Journal of Accounting and Finance*, *2*(4), 77-87. https://doi.org/10.13189/ujaf.2014.020402
[43] Kalash, I. (2020). Environmental Disclosure: Determinants and Effects on Financial Performance? An Empirical Evidence from Turkey. *Sosyoekonomi*, *28*(46), 95-115. https://doi.org/10.17233/sosyoekonomi.2020.04.05
[44] Khasharmeh, H., & Suwaidan, M. S. (2010). Social Responsibility Disclosure in Corporate Annual Reports: Evidence from the Gulf Cooperation Council Countries. *International Journal of Accounting, Auditing and Performance Evaluation*, *6*(4), 327-345. https://EconPapers.repec.org/RePEc:ids:ijaape:v:6:y:2010:i:4:p:327-345
[45] Lindblom, C. K. (1994). The Implications of Organizational Legitimacy for Corporate Social Performance and Disclosure. In *Critical Perspectives on Accounting Conference*, New York.
[46] Li, Z., Li, P., Zhao, X., & Tu, Z. (2022). Business Strategy and Environmental Information Disclosure Quality: Empirical Evidence from Chinese Heavy Pollution Listed Firms. *International Journal of Environmental Research and Public Health*, *19*(14), 8325. https://doi.org/10.3390/ijerph19148325
[47] 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. https://doi.org/10.1016/j.jclepro.2008.10.001
[48] Madhani, P. M. (2015). Study of Relationship between Board Committees and Corporate Governance Practices of Indian Firms. *Global Management Review*, *9*(3): 1-19. https://ssrn.com/abstract=2703228
[49] Milne, M. J., & Patten, D. M. (2002). Securing Organizational Legitimacy: An Experimental Decision Case Examining the Impact of Environmental Disclosures. *Accounting, Auditing & Accountability Journal*, *15*(3), 372-405. https://doi.org/10.1108/09513570210435889
[50] Monteiro, S. M. S., & Aibar-Guzmán, B. (2010). Determinants of Environmental Disclosure in the Annual Reports of Large Companies Operating in Portugal. *Corporate Social Responsibility and Environmental Management*, *17*(4), 185-204. https://doi.org/10.1002/csr.197
[51] Mousa, G. A., Desoky, A. M., & Khan, G. U. (2018). The Association between Corporate Governance and Corporate Social Responsibility Disclosure-Evidence from Gulf Cooperation Council Countries. *Academy of Accounting and Financial Studies Journal*, *22*(4), 1-19. http://dx.doi.org/10.2139/ssrn.3354398
[52] 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. https://doi.org/10.1016/S0020-7063(02)00151-6
[53] Nguyen, T. A., & Tran, H. L. (2022). The Determinants of Corporate Social Responsibility Disclosure: Evidence from Vietnam's Listed Companies in Chemical Industry. *Journal of International Economics and Management*, *20*(1), 18-41. https://doi.org/10.38203/jiem.020.1.0002
[54] Nuskiya, M.N.F., Ekanayake, A., Beddewela, E., & Meftah Gerged, A. (2021). Determinants of Corporate Environmental Disclosures in Sri Lanka: The Role of Corporate Governance. *Journal of Accounting in Emerging Economies*, *11*(3), 367-394. https://doi.org/10.1108/JAEE-02-2020-0028

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)

[55] Qatar Stock Exchange. (2016). Guidance on ESG Reporting. Retrieved from https://www.qe.com.qa/documents/20181/726774/Guidance_ESG_Reporting/62aac132-0e46-f419-08d7-fedd3958530b

[56] Reverte, C. (2009). Determinants of Corporate Social Responsibility Disclosure Ratings by Spanish Listed Firms. *Journal of Business Ethics, 88*, 351-366. https://doi.org/10.1007/s10551-008-9968-9

[57] Roberts, R. W. (1992). Determinants of Corporate Social Responsibility Disclosure: An Application of Stakeholder Theory. *Accounting, Organizations and Society*, *17*(6), 595-612. https://doi.org/10.1016/0361-3682(92)90015-K

[58] Saudi Tadawul Group. (2021). ESG Disclosure Guidelines. Retrieved from https://sseinitiative.org/wp-content/uploads/2021/11/Tadawul-ESG-Disclosure-Guidelines-EN.pdf

[59] Shehata, N. F. (2015). Development of Corporate Governance Codes in the GCC: An Overview. *Corporate Governance, 15*(3), 315-338. https://doi.org/10.1108/CG-11-2013-0124

[60] Sulaiman, M., Abdullah, N., & Fatima, A. (2014). Determinants of Environmental Reporting Quality in Malaysia. *International Journal of Economics, Management and Accounting*, *22*(1), 63-90. https://journals.iium.edu.my/enmjournal/index.php/enmj/article/view/253

[61] UAE Securities and Commodities Authority. (2020). Chairman of Authority's Board of Directors' Decision No. (3/Chairman) of 2020 concerning Approval of Joint Stock Companies Governance Guide

[62] UN ISAR. (1992). Environmental Disclosures: International Survey of Corporate Reporting Practices. Commission of Transnational Corporations Intergovernmental Working Group of Expert on International Standards of Accounting and Reporting, E/C.10/AC.3/1992/3.

[63] United Nations. (2015). Transforming our World: The 2030 Agenda for Sustainable Development. United Nations Digital Library. Retrieved from https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/291/89/PDF/N1529189.pdf?OpenElement

[64] Van Der Laan, S. (2009). The Role of Theory in Explaining Motivation for Corporate Social Disclosures: Voluntary Disclosures vs 'Solicited' Disclosures. *Australasian Accounting Business and Finance Journal*, *3*(4), 15-29. https://ro.uow.edu.au/aabfj/vol3/iss4/2/

[65] Welbeck, E. E., Owusu, G. M. Y., Bekoe, R. A., & Kusi, J. A. (2017). Determinants of Environmental Disclosures of Listed Firms in Ghana. *International Journal of Corporate Social Responsibility*, *2*(1), 1-12. https://doi.org/10.1186/s40991-017-0023-y

[66] Xie, B., Davidson, W. N., & Dadalt, P. J. (2003). Earnings Management and Corporate Governance: The Role of the Board and the Audit Committee. *Journal of Corporate Finance*, *9*(3), 295-316. https://doi.org/10.1016/S0929-1199(02)00006-8

[67] Zaidan, E., Al-Saidi, M., & Hammad, S. H. (2019). Sustainable Development in the Arab World – Is the Gulf Cooperation Council (GCC) Region Fit for the Challenge? *Development in Practice*, *29*(5), 670-681. https://doi.org/10.1080/09614524.2019.1628922

ISSN: 2304-1013 (Online); 2304-1269 (CDROM); 2414-6722 (Print)