

The Impact of ESG Disclosure Components on Firm Performance: Evidence from the GCC Financial Sector

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Abstract: Environmental, social and governance (ESG) disclosures have a sustainable strategic position between firm's objectives and its changing environment and can have a significant effect on its capability to attract funds, improve competitiveness, build a strong reputation in the market, and hence improve firm's performance. ESG disclosure is widely acknowledged in many business settings as an effective tool to measure corporate sustainability. The objective of the present study is to analyze the impact of environmental, social, and governance disclosure on firm's performance. The study employed a panel dataset of 63 firms from 2023 to 2025. The findings of this study showed that governance disclosure has a significant and positive impact on firms' performance measured using Return on Assets (ROA), while environmental and social disclosures have insignificant relationships with ROA. Further analyses were done and the results confirmed that governance as well as social disclosures have direct impact on shareholders' return using return on equity (ROE) as well as Tobin's Q confirming their contribution to stakeholders' trust and firm reputation. The environmental aspect of the ESG disclosure did not have any significant impact on any of the performance indicators, which makes it perceived as less financial material compared to the governance and social activities. There are several implications of the findings for different stakeholders; regulatory bodies; practitioners; and administrative authorities in both government and firms. We further recommend policymakers should closely monitor the progress of ESG disclosure and consider making environmental and social disclosures mandatory, similar to governance disclosure, to enhance their actual impact on firms' performance.

Keywords: ESG disclosure; Environmental disclosure; Social disclosure; Governance disclosure; Firm performance; GCC financial sector

1 Introduction

Firm performance is one of the primary matters for shareholders and investors as it reflects the ability of companies to generate returns from their resources and, hence, maximize their wealth. Firm performance is measured by several indicators. ROA is a widely used measure in literature as it evaluates how efficiently a company utilizes its assets to generate profits. In recent years, ESG disclosure has gained considerable attention from regulators, investors, and other stakeholders as it plays a major role in enhancing corporate transparency and accountability. ESG disclosure provides stakeholders with information regarding a firm's environmental practices, social responsibilities, and governance structures, thereby reducing information asymmetry between managers and shareholders. Conventionally, ESG disclosure has been considered as a form of voluntary disclosure through which companies provide information beyond mandatory reporting requirements. This non-mandatory disclosure is critical for companies as it promotes transparency, strengthens stakeholder confidence, and helps investors make more informed decisions regarding the company's long-term sustainability and performance.

ESG disclosure has become increasingly important within the GCC countries, where governments and regulatory authorities have introduced several initiatives to promote sustainable business practices. Recently, some GCC countries have increased their efforts to integrate ESG principles into their corporate reporting frameworks and design them in line with global sustainability trends. For example, Bahrain has directed listed companies to have mandatory ESG-related disclosure requirements, while Oman has announced major plans to gradually move toward mandatory sustainability

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reporting as well. Similarly, other GCC countries, including Saudi Arabia, the United Arab Emirates, and Qatar, have implemented sustainability frameworks, corporate governance reforms, and ESG reporting guidelines to enhance and encourage greater transparency among publicly listed companies. These developments reflect the region's commitment toward accelerating corporate accountability and aligning local capital markets with international sustainability standards.

Despite the growing adoption of ESG disclosure, the consequences of mandating ESG reporting remain unclear. Previous studies have extensively analyzed the correlation between ESG disclosure and firm performance; however, the results remain groundless. While some studies reported a positive relationship where ESG disclosure enhances reputation, stakeholder trust, and financial performance, other studies found negative or insignificant relationships.

A major limitation of the existing literature is that most studies were conducted during periods when ESG disclosure was voluntary and relatively uncommon within the GCC region. As a result, the evidence may not accurately reflect the actual implications of mandatory ESG disclosure in a business environment where companies are required to provide sustainability-related information in their reporting. As GCC countries continue to strengthen their ESG reporting requirements, there is a need for updated empirical evidence to examine whether ESG disclosure contributes to firm performance or merely represents an additional compliance obligation for companies operating in the region.

Recently, the GCC countries, just like the other developed countries, are pushing toward mandating the ESG disclosure as it would increase the reporting transparency and eliminate the agency issue gap between the shareholders and managers. On the other hand, it can be also claimed that companies tend to engage more in ESG activities and disclosure as a way to hide the bad financial situation in the company or sometimes, hiding their unethical practices including fraud. Therefore, there is a need to investigate whether this disclosure would really have an impact on the firm's performance to better understand the linkage and the consequences of mandatory ESG disclosure in the GCC region. Hence, the aim of study is to investigate the association between ESG disclosure and firms' performance measured using the most common performance measure in the prior literature which is ROA. The study also checks the other performance indicators to check the robustness of the main regression analysis.

Furthermore, the majority of the studies used a comprehensive measurement for the ESG disclosure, which might not provide a precise picture of the firm's practices. This argument is supported by the previous studies that also called for studying the ESG elements separately to have a better picture of these practices. Hence, there is a need to investigate each aspect of the disclosure separately to know exactly its impact on the firm's performance. Hence, the current study digs deeper into this relationship by investigating each ESG disclosure aspect separately (i.e., environmental, social and governance) as well as the overall ESG disclosure.

The findings of the study would help policymakers and the regulators to understand the impact of disclosing ESG information. Besides, the results would provide insights into the interested stakeholders and scholars about the real impact of engaging in ESG activities on firms' performance. In addition, this study provides recent evidence regarding this relationship, especially that the previous studies conducted within the GCC region reached inconclusive conclusions.

2 Literature Review

ESG disclosure is identified as a practice of public reporting by the organization's regarding its performance in relation to Environmental, Social, and Governance (ESG) issues. ESG disclosure is seen as an approach to assess the risks associated with a particular firm for investors and how that firm is able to manage or intend to manage any possible future risks [1].

The ESG strategies are not new. They emerged in 2004, yet the concept of socially conscious investing existed long before that. Investing based on these strategies did not used to be the norm but has since evolved into standard practices. Credit Suisse found that more than 85% of S&P 500 firms now disclose ESG information, which increased from just 20% in 2013 [2].

A growing number of international firms have started to disclose other non-financial information in their reporting systems based on several social issues. They also publish separate CSR reports that detail information on their social performance and corporate social responsibilities. Standard CSR reports cover a massive amount of data, like organization's expenses towards environmental protection, environmental preservation, climate change, human rights protection, charity donations, contributions to societal entities and communities, and employee welfare. These types of data are typically not reported in the financial reports. However, they have significant implications for evaluating firm's value and attracting investors [3].

ESG disclosure is widely acknowledged in many business settings as an effective tool to measure corporate sustainability. However, standardization of these disclosures has not yet been succeeded by various rating agencies which limit investors' access to standardized data that can be used to identify ESG risks and opportunities [4]. Rating agencies implement different methodologies to assess ESG performance indexes which can be negative for organizations in their decision-making process [5].

Another challenge with ESG disclosure is the components of separate reports for CSR. A concern with these reports is that they provide non-financial information about the status of environmental and social activities of a firm which is non-

integrated and classified accordingly. However, they do not represent for stakeholders any required links and connections that are fundamental to effectively evaluating firm performance, strategies and any potential value creation in the current period or in the future [6].

Integrated Reporting (IR) is a solution to this challenge. The International Integrated Reporting Council (IIRC) states that the purpose of IR is to provide “information about an organization’s strategy, governance, performance and prospects in a way that reflects the commercial, social and environmental context within which it operates” [7]. An Integrated Report represents a strong basis for other stakeholders on the status of a firm, including its compliance status, such as investor presentations, detailed financial data, operational and sustainability information.

Economies are reshaping nowadays towards more sustainable practices where businesses operate their activities while ensuring societal and environmental rights are maintained. The business sector is more aware of the importance of ESG and, hence, explores several initiatives for embedding ESG principles into the decision-making processes while emphasizing reporting as an essential link for their value creation activities. These activities are aligned with the Sustainable Development Goals (SDG’s) [4].

Recently, many rating agencies have approved and signed the Principles of Responsible Investment (PRI), which pleads their commitment to include ESG factors in their credit rating procedures. The European Commission is also among the leading entities which committed itself to delivering sustainability issues in the financial sector as it has developed many expert entities that concentrate on sustainable finance [8].

ESG rating agencies understand the importance of a socially responsible business environment and their steps are one of the critical reform plans towards the development of ESG standards. The investments in ESG are already growing, as Bank of America predicted that \$200 trillion would stream into several ESG funds over the next two decades, and The UN Principles for Responsible Investment now includes over 2,250 money managers who manage assets worth \$80 trillion [2].

Various factors promote investor interest in ESG strategies. Investors who build their decisions on moral grounds entirely avoid companies that do not align with their personal beliefs. Most people evaluate ESG factors through the lens of financial risk assessment. Companies that fail to implement equal pay practices, for example, may experience staff backlash and elevated turnover rates which subsequently affect their stock performance [2].

At the institutional level, firms the implement ESG disclosure can raise significantly greater sums of equity capital than firms that do not disclose ESG information which in return affect firm’s performance [9]. Investors have a fiduciary duty to act in the best interests of company’s stakeholders. Under this fiduciary duty, investors can use ESG scores to implement an approach that identifies and manages investment risks and provides opportunities for long-term value creation. As a result, the integration of ESG raises effective corporate governance, integrity, accountability and reduces the barriers of a sustainable financial system [1].

Several reports and research provide evidence on the effect of ESG disclosure on firm performance and business outcomes. Giese et al. [10] found a link between ESG ratings of firms and their performance and valuation. The report suggested that ESG ratings are significant financial indicators for many investors as ESG investing strategies thrive when investors reflect on ESG matters in combination with other traditional financial factors when building their investment decisions.

A paper by Crifo et al. [11] studied the impact that ESG practices disclosure has on equity financing by implementing a field experiment in which different professional investors competed in closed auctions to secure fictive firms. The results showed that investors respond more to negative ESG disclosure than to good ESG disclosure. Irresponsible ESG practices showed a stronger impact on equity financing in terms of firm prices than responsible ESG practices.

It is proven that the equity market response to corporate socially responsible orientation disclosures tends to be driven by profit considerations. It is, therefore, essential to study how investors view corporate social performance as a mechanism for value creation. The United Nations Principles for Responsible Investing (UNPRI) defines “responsible investment” as “an approach to investment that explicitly acknowledges the relevance to the investor of ESG factors, and the long-term health and stability of the market as a whole”.

Branco & Rodrigues [12] reported that firms with ESG disclosure strategies have also the potential to increase their firm value on the human resources level. For example, environmental or social activities can improve managerial capabilities and firm’s potential to attract higher qualified employees and managers. They can also increase current employees’ motivation, morale, commitment and loyalty to the firm.

Furthermore, these activities can also improve the firm’s reputation and strengthen communication with its stakeholders [12]. In the last two decades, many firms, specifically large multinational firms, have increased their efforts to disclose their ESG matters to recognize their business behavior and improve their reputation in the market [13].

Studies showed that firms that have good governance structures, implement transparent decision-making processes, and adhere to ethical standards can achieve better valuations in the market and have higher resilience during crises as well [10]. Many previous economic events have emphasized the importance of ESG disclosure where negative long-term consequences in the economy and within corporations resulted from disregarding the risk of ESG such as share price drops and bankruptcies [4].

The recent global financial crisis has made it clear that risks can develop and volatility can increase and one important tool to address these risks is greater transparency which is facilitated through ESG disclosure and combined with internal decision making and behaviors [7].

As many studies have shown, firms that are committed to managing their environmental, social, and corporate governance risks can have better social ratings and therefore reduce their financial risks. According to the slack resource theory, low risk is reflected in effective resource planning and reliable projections for cash flow and accordingly encourage a better commitment to CSR [14].

Moreover, greater transparency in terms of a firm's environmental, social, and governance risks can alleviate greater information asymmetry as well and create a basis for ESG disclosure. A recent CFA Institute survey showed that 52% of the respondents of quantitative analysts and portfolio managers agree that regulators should mandate ESG disclosures by firms, while 63% of the respondents suppose that regulators should encourage the development of ESG disclosure standards within firms [15].

On the other hand, a study by Fatemi, et al. [16] examined the effect of firm's ESG activities and disclosure on firm's value and concluded that ESG strengths can subsequently strengthen firm's value while ESG weaknesses can reduce it. Disclosure of ESG information has a critical moderating role by mitigating the negative effect of weaknesses and enhancing the positive effect of strengths.

A study showed that Initial Public Offering (IPO) underpricing seems to be lower in countries where ESG Government Ratings are higher. In terms of the environmental, social, and governance elements, it is concluded that underpricing tends to be less where there are stronger risk management practices in these elements. One main reason for that is ESG disclosure provides value-relevant information that has important implications for a wide number of financial market transactions, namely IPOs where disparities and misinformation can arise among participants [17].

Another study by Khandelwal, et al. [18] implemented a dataset of companies disclosing ESG factors from 2014 to 2021 from the S&P BSE (the Bombay Stock Exchange) 500 index to investigate ESG disclosure role on firm performance and whether ESG disclosure assist a firm in its financial performance by using the asset-pricing approach. The study concluded that excessive ESG disclosures by companies showed a negative risk premium compared to other non-transparent companies. Also, the risk portfolio for opaque portfolios was significantly higher than the risk of transparent portfolios, which implies that firms that do not disclose ESG information are the most negatively affected in bearish market conditions against those that disclose. These companies need to address their disclosure in their reports to optimize their financial performance in the various capital markets.

A statistical report by Hussain, et al. [19] assessed the effect of ESG disclosures on financial performance, while stressing the moderating factor of internationalization. The study used a panel of 697 listed organizations in the Asia-Pacific emerging economies from 2013 to 2022. The results showed that ESG disclosure significantly and negatively influences firm's financial performance. Nevertheless, the extent of internationalization (as measured by international and geographical extensity) significantly and positively affect the relationship between ESG disclosure and firm financial performance.

Mohammad and Wasiuzzaman [20] investigated the effect of firms' ESG disclosures on firm performance, moderated by firm competitive advantage and using data from 661 firms listed on the Malaysian Bursa. The study found that ESG disclosure improves firm performance even after controlling for competitive advantage. Also, an increase in ESG disclosure by one unit will increase firm performance by approximately 4 percent in Malaysia market. Their study recommended re-examining the status of ESG disclosure and firm's financing incentives as high scores of ESG are allied with higher competitive advantage.

As shown earlier, the findings of the previous studies are still mixed, and the majority of the studies used a comprehensive measurement for the ESG disclosure. However, there is a need to investigate each aspect of the disclosure separately to know exactly its impact on the firm's performance. Hence, the current study digs deeper into this relationship by investigating each ESG disclosure aspect separately as well as the overall ESG disclosure. The study hypotheses are as follows:

H1. *There is a significant relationship between environmental disclosure and firm performance.*

H2. *There is a significant relationship between social disclosure and firm performance.*

H3. *There is a significant relationship between governance disclosure and firm performance.*

3 Methodology

3.1 Study sample

Sustainability is acknowledged as a policy priority in the GCC region [21]. Recent initiatives, such as the requirement for sustainability and ESG disclosures by various stock exchanges in the region, indicate a unified effort to integrate ESG

principles into financial frameworks [22]. However, the majority of the studies conducted within this region (e.g., [23, 24]) offered descriptive information but barely analyzed the actual effect of disclosing ESG information on financial performance as measured by ROA. ROA is considered as a critical operational performance metric, essential for shareholders in their investment decision-making process. The research sample comprised financial sector companies listed on the GCC stock exchanges.

This study specifically focused on financial firms due to the regulatory differences between financial and non-financial listed companies, which may affect the results. Also, this sector was chosen as there are different regulatory initiatives to apply ESG disclosure. The data was extracted from Bloomberg database. Some firms' information were missing from the Bloomberg database; therefore, they were excluded from the study sample. The number of the financial firms included is 63 and the total of 189 observations for the years 2023 to 2025. Figure 1 represents the conceptual framework related to the current study.

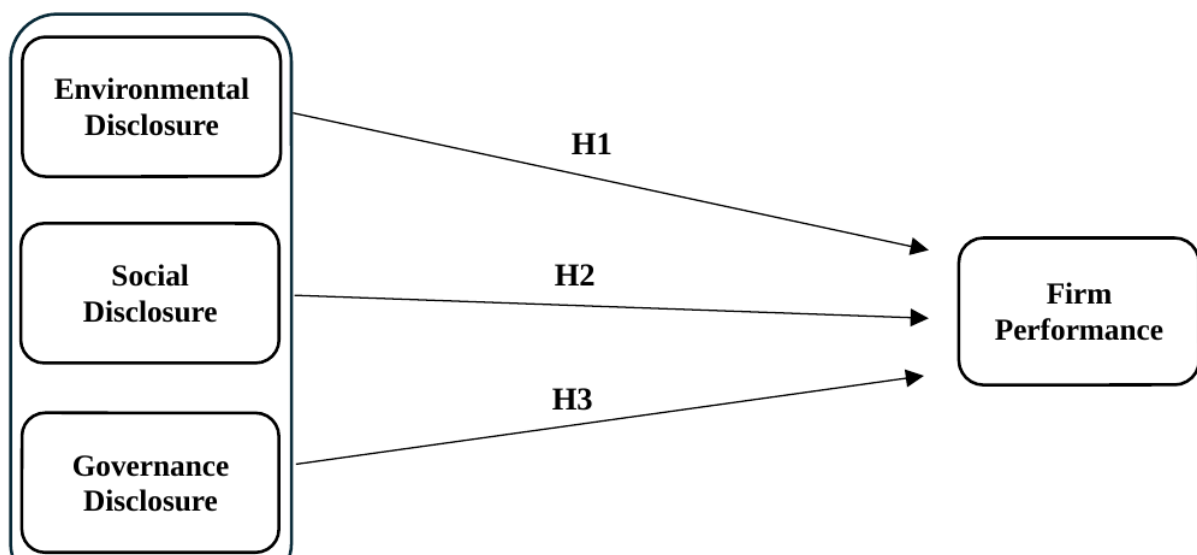


Fig. 1: Conceptual Framework

3.2 Model development

Fixed effect regression model was used in this study since it is a panel data. The fixed effect regression model was chosen after conducting Hausman [25] test and the result showed that the p-value was less than 0.05. This means that the random effect was rejected, and the presence of time-invariant effects was accepted. Using this model can help in tackling the heterogeneity issue when analyzing the relationship between ESG disclosure and firm performance.

The following regression model was created to test the relationship between ESG disclosure and firms' performance:

$$ROA_{i,t} = \alpha_0 + \alpha_1 ED_{i,t} + \alpha_2 SD_{i,t} + \alpha_3 GD_{i,t} + \alpha_4 SIZE_{i,t} + \alpha_5 AGE_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where:

Return on assets (ROA) is a metric that assesses company performance by determining the ratio of net income to total assets. ED, SD, and GD denote environmental disclosure, social disclosure, and governance disclosure, respectively. These proxies are extracted from Bloomberg. The control variables include SIZE, denoting firm size as measured by total assets, and AGE, indicating the firm's age. $\varepsilon_{i,t}$ signifies the error term. i denotes firms, while t signifies the period.

3.3 Descriptive statistics

The results of the descriptive statistical analysis are presented in Table 1. The average ROA is 1.266%, demonstrating that most firms included in the sample are profitable. The governance disclosure (GD) exhibits the highest average in comparison to social (SD) and environmental disclosures (ED). This reveals that the governance regulations were established considerably earlier than the other disclosures. This also implies that additional effort is required to reveal further information concerning these two aspects. Furthermore, there are some firms who are still not disclosing regarding the three ESG aspects as shown in the minimum column. In addition, the average age as shown in the table below is 39 years. This might give an indication that generally listed firms in the GCC are relatively old which might make it a challenge for them to change dramatically their disclosure requirements.

Table 1: Descriptive statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA	189	-8.57%	6.63%	1.266%	1.370%
ED	189	0	264	15.185	27.200
SD	189	0	123	23.630	22.906
GD	189	0	510	83.566	86.557
SIZE	189	3.570	9.710	7.378	1.163
AGE	189	3	72	39.444	16.864

Moreover, Figure 2 shows the average of ESG disclosure components according to each country included in the study sample. The figure reveals that Saudi Arabia is really active in disclosing these three elements compared to the GCC countries. However, the figure shows that the governance disclosure scored the highest level in all countries. This result was expected since the corporate governance code was introduced more than a decade now and the firms are already familiar with it, unlike the social and environmental aspects.

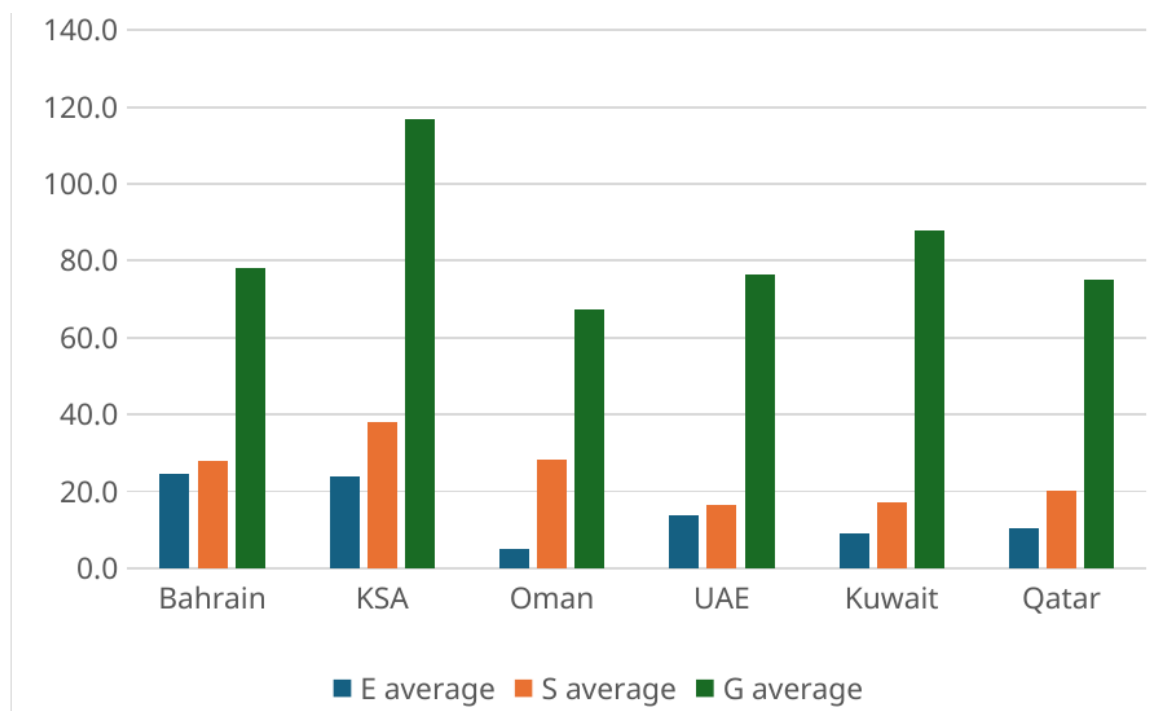


Fig. 2: ESG Components Level Based on the Countries

Furthermore, Figure 3 shows the development of ESG disclosure level based on the years included in the study. As presented in the figure, the disclosure has increased throughout the years which confirms that countries are dedicated to disclosing these three aspects in their reports.

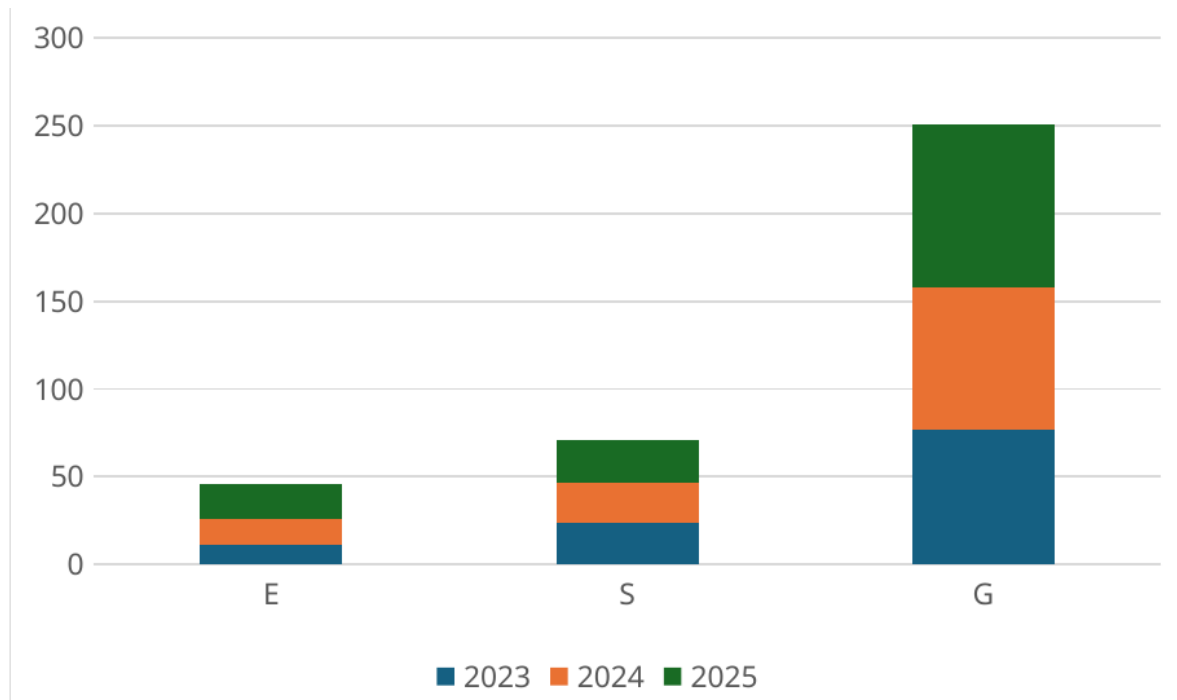


Fig. 3: ESG Disclosure Level Based on the Study Years

Next, table 2 displays the outcomes of the Pearson correlation analyses and the variance inflation factor (VIF) assessments. The purpose of these tests was to assess whether the variables exhibit multicollinearity. The statistics presented in the table indicate that multicollinearity is not a concern.

Table 2: Pearson correlation and VIF results

Variables	ROA	ED	SD	GD	SIZE	AGE	VIF
ROA	1						
ED	.053	1					1.834
SD	.116	.309**	1				1.851
GD	.580**	.061	.470**	1			1.771
SIZE	.253**	.050	.040	-.037	1		1.033
AGE	.163*	.160	.171*	.165*	.155*	1	1.058

*, ** Correlation is significant at the 5% level and 1% respectively.

3.4 Regression analysis results

Table 3 illustrates the outcomes of the regression analysis. The objective of this study is to highlight each component of ESG individually, as we contend that compiling the three fundamental aspects into a single disclosure or measurement would not provide a precise picture of each element. Therefore, examining each element individually and assessing its

effect on firm performance would provide a clear understanding of the current situation and identify the most significant driver of firm's performance.

According to the findings presented in Table 3, GD exhibits a significant and positive correlation with firms' ROA at the 5% significance level. This affirms that governance remains a vital issue, predominantly disclosed by firms to comply with the rules and regulations of GCC countries, beginning with Oman, which introduced its corporate governance code in 2002, and ending with Kuwait in 2013. This result in alignment with Altarawneh et al., [26].

Moreover, the ED and SD requirements were announced recently in several GCC countries, effective from 2024. Hence, as stated by Aljanadi and Alazzani [27], companies listed in the GCC often lack full information on environmental metrics, thereby leading to low level of environmental disclosure [28]. Also, Nugrahani et al., [29] stressed that the stakeholders theory might not explain the association between social disclosure and firms' performance as social initiatives may not always be profit-enhancing.

Table 3: Regression analysis results

Variables	Stand. Coeff.	t	Sig.
(Constant)		-1.270	.206
ED	-.068	-.612	.542
SD	.119	1.065	.289
GD	.194	2.301*	.023
SIZE	.288	3.455**	.001
AGE	.000	-.005	.996
YEAR	Included		
FIRM	Included		
Adj. R2	.362		
F	73.950		
Observations	189		

**, * represent significance at the 1%, 5%, respectively.

Further analysis was done to determine the impact of ESG disclosure components on ROE as a performance metric. However, this metric focuses on shareholders value rather than assets efficiency (ROA). As shown in table 4, the results are similar to ROA regression model, however, the social disclosure became positive and significantly related to ROE. This indicates that the governance disclosure would enhance asset efficiency as well as the shareholders return. However, the social disclosure mainly improves the shareholders' value. Again, this confirms that the governance disclosure has a direct impact while the social activities can have an indirect positive financial impact by enhancing the stakeholders' trust and firm reputation.

Table 4: Robustness analysis results – The relationship between ESG disclosure components and ROE

Variables	Stand. Coeff.	t	Sig.
(Constant)		-2.111**	.036
ED	-.136	-1.411	.160
SD	.196	1.839*	.068
GD	.217	2.422**	.016
SIZE	.170	2.571**	.011
AGE	.110	-1.524	-.129
YEAR	Included		
FIRM	Included		
Adj. R2	.297		
F	50.284		
Observations	189		

**, * represent significance at the 5%, 10%, respectively.

Also, table 5 revealed the analysis results of the relationship between ESG disclosure aspects and the market-based metric (Tobin's Q). The results were similar to the ROE regression model results. The findings confirm that the governance

and social aspects can be value generating for the shareholders in the long run and not just enhancing the assets efficiency in the short run.

Table 5: Robustness analysis results – The relationship between ESG disclosure components and Tobin's Q

Variables	Stand. Coeff.	t	Sig.
(Constant)		5.767**	.000
ED	-.162	-1.515	.131
SD	.442	2.124*	.035
GD	.324	3.261**	.001
SIZE	-.033	-.450	.653
AGE	-.183	-1.976*	.050
YEAR	Included		
FIRM	Included		
Adj. R2	.357		
F	62.842		
Observations	189		

**, * represent significance at the 1%, 5%, respectively.

4 Conclusion

This study aims to have a closer look at ESG disclosure in the GCC. In particular, the study investigates the individual relationship between environmental, social and governance disclosure and firm performance. The research sample comprised of financial sector companies listed on the GCC stock exchanges for the period 2023-2025. The findings revealed that only the governance related disclosure was significantly and positively related to firms' performance while the social and environmental disclosures had insignificant relationship. Further analysis was done and the results confirmed that the governance disclosure has a direct impact on the operational efficiency as well as the shareholders' return while the social initiatives have a positive impact on stakeholders' trust and firm reputation.

The study results highlighted that generally, the governance disclosure is the most essential driver of the ESG disclosure to financial firms because it signals reporting transparency and strong risk management mechanisms. Having a strong governance mechanism would result in improved profitability, operational efficiency and market value in the GCC region market where the governance of firms is monitored closely by regulatory authorities. Moreover, another reason could be that, as shown in the descriptive results, the level of governance disclosure in the GCC is higher than the other types of disclosure as recent regulatory initiatives pushed toward disclosing more information regarding social and environmental activities while the governance regulations were mandatory for more than a decade.

On the other hand, the social activities of firms would mainly influence their reputation and shareholders' trust and loyalty rather than having a direct impact on the operational profitability. The environmental aspect of the ESG disclosure did not exhibit any significant impact on any of the performance indicators. This could be because this disclosure is still considered immature compared to the governance aspect since countries in the GCC paid attention to it in recent years. Also, the current study focused on the financial sector. This sector may not have a direct contribution to the environment such as reducing CO2 emissions like the manufacturing sector. Hence, the environmental disclosures could be less financially material.

The study suggests that great effort is needed to disclose more information about social and environmental activities. Hence, policymakers need to monitor closely the progress of disclosing ESG information. The study focused on the financial sector in the GCC. However, future studies can include other sectors. For instance, testing these disclosures within the oil and gas sector would be interesting setting. Also, future studies can take into consideration the role of firms' ownership categories, board characteristics, and audit quality in affecting this association. The future studies can also check the impact of introducing new regulations to promote ESG disclosure aspects. Besides, this study focuses on ROA as a performance indicator, future studies could test other performance metrics such as ROE and Tobin's Q. The current study applies multiple regression analysis, future studies can use other regression analysis methods such as GMM, fixed or random effects. Finally, the future studies can expand the study sample by including the MENA region to better understand the association between the ESG aspects on firms' performance.

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