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# THE IMPACT OF THE BOARD OF DIRECTORS' CHARACTERISTICS ON THE DISCLOSURE OF THE EFFECT OF COVID-19 BY SAUDI LISTED COMPANIES

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## Abstract

The study aimed to determine the impact of the board of directors' characteristics and the impact of CEOs characteristics on the disclosure of the effect of COVID-19 in financial reports. The study sample included 141 Saudi non-financial firms publicly listed on Tadawul in 2020. The data was also collected using content analysis from companies' annual reports, and the average disclosure of the effect of COVID-19 in financial reports was measured using a disclosure index. The results showed a positive relationship between the number of board meetings and disclosure of the effect of COVID-19 in the financial reports of large companies. There is also a positive impact of the CEO's educational background on the disclosure of the effect of COVID-19. While the impact of the board size, independence, number of board meetings, CEO tenure and CEO age on the disclosure of the effect of COVID-19 in the financial reports of Saudi joint-stock companies was absent.

## Keywords

Board of directors' characteristics; CEO characteristics, Disclosure, COVID-19

## Introduction

The changes that occur in the current economic environment are not only related to financial crises, but extend to include natural disasters and the spread of epidemics. This may cast a shadow on the demand curve for goods and services, which poses a challenge to companies.

In 2020, after the World Health Organization declared the Corona virus (COVID-19) a global pandemic. Many countries have taken drastic precautionary measures. Including Saudi Arabia, which converted schools and universities, as well as work in some sectors to online. And then followed by the decision to prevent travel abroad and, in the end, impose a curfew to limit the spread of the epidemic. The immediate economic impact of COVID-19 was characterized by a sharp decline in global GDP. According to the International Monetary Fund (IMF), the global economy faced a substantial contraction that was significant in comparison to the 2008 financial crisis (Liu, 2023). Various studies illustrate that the economic downturn was triggered primarily by lockdowns and restrictions, which halted production and disrupted supply chains. For example, the International Labour Organization (ILO) projected that COVID-19 could potentially increase global unemployment by nearly 25 million people as businesses shuttered in response to the pandemic, particularly affecting those already in precarious employment (Khambule, 2021).

Given the profound economic consequences, the ability of companies to transparently disclose COVID-19's impacts have become critical. High-quality disclosure enables stakeholders to make informed decisions during periods of uncertainty. Despite the recognized importance of disclosure during crises, limited research has investigated how internal corporate governance mechanisms, particularly the characteristics of boards of directors (BD) and CEOs, influence the level of crisis-related disclosure.

Thus, this study addresses a significant research gap by examining the relationship between BD and CEO characteristics and the level of COVID-19-related disclosure among Saudi listed companies. By focusing on the Saudi context, where regulatory environments and corporate governance structures may differ from those of Western economies, this study contributes to the broader understanding of how governance practices shape disclosure behaviors during unprecedented global crises.

# 1. Literature review and hypothesis development

There are extensive studies investigating the impact of BD on corporate financial disclosures (Almaiman et al., 2024; Ben Mohamed et al., 2020). The subject maters range from studies investigating the impact of BD on environmental disclosures (Giannarakis et al., 2020; Chouaibi et al., 2022). However, some of these studies discussed the disclosure of social responsibility and its relationship to the BD (Gavana et al., 2024). Some of them also addressed the impact of the characteristics of the BD on mandatory disclosure and risk disclosure (Mnif & Znazen, 2020; Bufarwa et al., 2020; Allini et al., 2015). Which highlights the role played by the BD in protecting shareholders' rights as one of the mechanisms of corporate governance. This role is supported by agency theory as the logic of it is based on the fact that all stakeholders have the right to know what is going on inside the company to avoid increasing the benefit of one's interest over another (Jensen & Meckling, 1976).

On the other hand, some studies have proven the impact of CEO characteristics on disclosure. Trisnawati et al. (2023) discussed the relationship between corporate risk management disclosure and CEO characteristics. The study proved the impact of excessive confidence in the CEO on the disclosure of management risks and the length of the CEO's term had a negative impact on risk management disclosure. Ernawan, (2019) discussed the impact of CEO narcissism on social responsibility disclosure. The results proved that the CEO's tenure, the CEO's ownership percentage of the company's shares, the debt-to-assets ratio, and the company's size affected the disclosure of social responsibility. The upper echelons theory also supports this relationship. The upper echelons theory began to answer questions about the organizational theory: why organizations act as they do and why organizations perform the way they do. Hambrick and Mason (1984) pointed out that the theory explains the interrelationship between four main concepts: demographic characteristics, cognitive styles and values, strategic choices, and performance outcomes. The theory is based on the idea that the knowledge base and values of senior managers (such as age, education, etc.) affect their interpretation of strategic situations and the reaction shown in their choices. Thus, management choices are reflected in organizational performance.

### *1.1 BD Size and the Disclosure*

Chouaibi et al.'s (2022) pointed out that the large size of the BD and the independence of management have a positive impact on the level of environmental disclosure. It has also been proven that the size of the BD has a positive relationship with the disclosure of intellectual capital (Vitolla et al., 2020). Al-Fraih (2016) provides empirical evidence supporting the positive effect of BD size on disclosure. Moreover, Gavana et al. (2024) highlight that BD diversity, which often accompanies larger BD sizes, plays a crucial role in enhancing environmental, social, and governance disclosures.

In contrast, Alshbili et al. (2019) demonstrated that the size of BD had no significant effect on disclosure of social responsibility. Juhamani (2017) also proved that there is no relationship between the level of disclosure and the size of the BD. Some studies have indicated that the size of the BD has no effect on risk disclosure (Alshirah et al., 2020; Bufarwa et al., 2020; Gulko et al., 2017).

***$H_1$: There is a positive relationship between the size of the BD and the level of disclosure of the effect of COVID-19 in the financial reports*.**

### *1.2 BD Independence and the Disclosure*

Regarding the independence of the BD and its relationship to disclosure, (Juhmani, 2017) has proven the impact of this relationship. Salem et al. ( 2019) confirmed the positive relationship between the independence of the BD and the disclosure of risks. Some studies have also indicated the impact of the BD's independence on environmental disclosure (Chouaibi et al., 2022). Companies with a higher percentage of BD independence disclose risks with higher quality than others based on (Elshandidy & Mengyun, 2017).There is also a positive relationship between environmental reports and the percentage of BD independence (Rao et al., 2012).Gavana et al. (2024) highlight that independent directors play a crucial role in ensuring that management is held accountable, thereby promoting better environmental, social, and governance disclosure practices.

Moreover, some studies explicitly argue against a strong relationship. For example, Mawardani & Harymawan (2021) found that increased BD independence was associated with reduced financial disclosure in the Middle East and North Africa region, suggesting that independent boards may not always lead to enhanced transparency. As for Hamrit (2018), found a negative impact on the disclosure of operational risks resulting from the independence of the BD.

***$H_2$: There is a positive relationship between the independence of the BD and the level of disclosure of the effect of COVID-19 in the financial reports.***

### *1.3 BD Meetings and the Disclosure*

Research by Jizi et al. (2013) suggests that a higher number of BD meetings is positively associated with the level of information disclosed, particularly in the context of CSR reporting. Similarly, Odumelam and Okafor (2018) find that an increase in the number of BD meetings positively affects environmental disclosure, suggesting that active boards are more effective in addressing agency conflicts and ensuring comprehensive reporting. It has also been shown that the amount of environmental disclosure increases with the increase in the number of BD meetings in British companies (Aburaya, 2012).

Conversely, some studies present findings that challenge the notion of a strong relationship between BD meeting frequency and disclosure quality. For instance, Giannarakis (2014) reported that the number of BD meetings does not play a significant role in the level of social responsibility disclosure in American companies.

***$H_3$: There is a positive relationship between the number of BD meetings and the level of disclosure of the effect of COVID-19 in the financial reports.***

### *1.4 CEO Tenure and Disclosure*

Agustina and Sudibyo (2022) found that CEO tenure positively affects CSR disclosure quality, suggesting that experienced CEOs are more likely to recognize the value of comprehensive disclosures to satisfy stakeholder expectations. Trisnawati's (2023) research indicates that longer-tenured CEOs are better equipped to manage external pressures and make significant company decisions.

On the other hand, Ernawan's (2019) found that CEO tenure negatively impacts CSR disclosure, suggesting that long-serving CEOs may prioritize personal interests over transparency. Chen et al. (2023) discuss how CEOs early in their tenure may use voluntary disclosures to signal their capabilities to external stakeholders.

***$H_4$: There is a positive relationship between CEO tenure and the level of disclosure of the effect of COVID-19 in the financial reports***

### *1.5 CEO Age and Disclosure*

CEOs age is one of the most important characteristics that can shape managerial decision (Mohamed et al., 2014). Research by Haider et al. (2019) suggests that as CEOs age, the accuracy of earnings forecasts improves, leading to more reliable financial disclosures. Also, found that older CEOs tend to exhibit less bias in their financial reporting, resulting in more accurate and transparent disclosures (Jahan, 2024).

While experience can be beneficial, older CEOs may also exhibit resistance to change and innovation. Research by Chijoke-Mgbame et al. (2023) indicates that older CEOs might be less adaptable to new reporting standards or practices, potentially leading to less comprehensive disclosures. Furthermore, Setiawan and Gestanti (2022) highlights that CEO age negatively influences financing policy, which can indirectly affect disclosure practices related to financial performance.

***$H_5$: There is a negative relationship between CEO age and the level of disclosure of the effect of COVID-19 in the financial reports.***

### *1.6 CEO Educational Background and Disclosure*

Cahyono et al. (2024) highlight that CEOs with educational backgrounds in Science, Technology, Engineering, and Mathematics fields are particularly effective in managing corporate climate change disclosures. Their technical expertise enables them to understand complex environmental issues and communicate them effectively to stakeholders. Trisnawati et al. (2023) noted that CEOs with a history in accounting and finance tend to take a more cautious approach to their work, positively influencing the quality of risk disclosures.

While financial education can enhance disclosure practices, it may also lead to overconfidence among CEOs. Rashid et al. (2020) found that CEOs with strong financial backgrounds might engage in riskier financial practices, which can result in selective disclosures that favor positive outcomes while downplaying potential risks. While, research by Lewis et al. (2014) suggests that CEOs with legal backgrounds may be less likely to engage in voluntary environmental disclosures compared to their counterparts with business or technical degrees.

***$H_6$: There is a positive relationship between CEO educational background and the level of disclosure of the effect of COVID-19 in the financial reports.***

### *1.7 Company Size and Disclosure*

Chouaibi et al. (2022) found that firm size has a highly significant positive effect on the likelihood of making environmental disclosures among large European companies, supporting the notion that larger firms are more inclined to provide comprehensive information due to their greater public visibility and the expectations of stakeholders. It has also been proven that large American companies tend to develop the environmental disclosure process (Giannarakis et al., 2020).

However, not all studies uniformly support the positive correlation between company size and disclosure. For instance, ALrbaa and ALmahamed (2020) found no significant impact of firm size on risk disclosure.

***$H_7$: There is a significant impact of Firm size on the level of disclosure of the effect of COVID-19 in the financial reports.***

***1.8 Type of Industry and Disclosure***

Various studies have shown that industry characteristics significantly influence disclosure practices. Juhmani (2017) found that IFRS disclosure is higher in financial companies than in other companies in other sectors. Moreover, companies operating in heavy polluting industries or state-owned enterprises tend to disclose higher levels of carbon information. This is attributed to increased external pressures and stakeholder expectations, which necessitate greater transparency regarding environmental impacts (He et al., 2019).

In contrast, some studies indicate that not all industries exhibit the same level of disclosure. For instance, Suttipun and Stanton (2012) found that companies in the resources industry made the most environmental disclosures, while those in the agricultural and food industries disclosed the least. This suggests that the nature of the industry significantly affects the extent and type of information disclosed.

***$H_8$: There is a significant impact of type of industry on the level of disclosure of the effect of COVID-19 in the financial reports.***

## 2. Methodology

This study uses manual content analysis to measure the impact of BD characteristics on disclosure of the effect of COVID-19 in financial reports. The content analysis method is one of the most important methods used to measure accounting disclosure, where the researcher can measure the amount of information or calculate the number of data elements (the number of words, the number of sentences, the number of pages, etc.) without bias. Vitolla et al. (2020) used content analysis to determine the relationship between the characteristics of the BD and the disclosure of intellectual capital. Gulko et al. (2017) measured the size and type of risk disclosure in Britain using the content analysis method. Some studies have also examined the relationship between CEO characteristics and their impact on corporate governance through content analysis (Ahmed & Ali, 2023; Zaidi et al., 2024).

The sample of this study is all non-financial companies listed in Saudi Exchange (SE) - Tadawul during the fiscal period 2020. The total sample amounted to 141 companies after excluding 39 companies due to lack of data. Data for this sample were collected from companies' annual financial reports and annual BD' reports.

Table 1 shows the study variables and their measurement methods. The dependent variable (disclosure of the effect of COVID-19 in financial reports), it was measured through an index prepared by the researcher. The International Accounting Standards Board (IASB) and some organizations and chartered accountancy firms have published a set of clarifications on accounting treatments in some standards. From these publications, the measurement index for the dependent variable was prepared. The biggest focus is on the publication of the Saudi Organization for Chartered and Professional Accountants (SOCPA), as it specializes in the economic, social, and legal conditions of the Saudi market.

The study will use multiple linear regression to examine the impact of the characteristics of the BD on the extent of disclosure of the effect of COVID-19 in Saudi companies. The collected data will also be analyzed to examine the relationship between research variables using EViews 10 software. The research model is as follows:

$$\boldsymbol{disc = \beta_0 + \beta_1 BDSIZE + \beta_2 INDBD + \beta_3 MEET + \beta_4 CEOT + \beta_5\, CEOA + \beta_6 CEOF + \beta_7 CSIZE + \beta_8 INDST + e}$$

**Where:**

Dependent variable: $disc$ = The level of disclosure of the effect of COVID-19

Main independent variables: $BDSIZE$ = BD size, $INDBD =$ Independence of the BD, $MEET =$ The number of BD meetings

Secondary independent variables: $CEOT$ = CEO Tenure, $CEOA$= CEO Age, $CEOF$ =CEO Educational Background

Control Variables: $CSIZE$ = Company size, $INDST$ = Type of industry.

| Variable | Variable code | Definition and Measure |
|---|---|---|
| The level of disclosure of the effect of COVID-19 | $disc$ | Disclosure of the impact of COVID-19 in financial reports, measured by the index prepared by the researcher. |
| BD size | $BDSIZE$ | The number of members of the BD. Measured by number of BD members at the end of the year (Alfraih, 2016); (Alshbili et al., 2019; Hamrit, 2018; Vitolla et al, 2020); Zaabouti and Ben Mohamed (2025). |
| Independence of the BD | $INDBD$ | The number of non-executive BD. Measured by percentage of the number of independent members of BD (non-executive) (Habbash, 2014; Torchia & Calabrò, 2016), Ezzeddine and Jarboui, 2017; Hamrit, 2018; Vitolla et al., 2020. |
| The number of BD meetings | $MEET$ | Measured by the number of BD meetings during the year (Alshbili et al., 2019; Vitolla et al.,2020). |
| CEO tenure | $CEOT$ | Measured by the number of years the CEO has served in the company as CEO (Ahmed & Ali, 2023; Maswadi & Amran, 2023). |
| CEO age | $CEOA$ | Measured by a dummy variable of 1 if the CEO is 55 or older and 0 otherwise (Desir et al, 2024; Haider et al, 2019). |
| CEO's educational background | $CEOF$ | It is the field of CEO education. Measured by a dummy variable of 1 if the CEO holds a degree in business administration and economics (business administration, finance, accounting, economics) and 0 otherwise (Ghardallou et al., 2020; Trisnawati, 2023) |
| Company size | $CSIZE$ | It is the scale or magnitude of a business entity. Measured by the logarithm of the company's assets for company I and period T (Alfraih, 2016; Habbash, 2014; Salem et al, 2019; Torchia & Calabrò, 2016). |
| Industry type | $INDST$ | It is the classification of businesses based on their primary activities or the products and services they provide. Measured by the dummy variable equals 1 for industrial companies and 0 otherwise (Alfraih, 2016; Habbash, 2014; Salem et al, 2019). |

**Table 1 The variables definition**

## 3. Results and Discussion

Table 2 shows the descriptive statistics of the variables of this study. The table shows that the average disclosure of the impact of COVID-19 in the financial statements of Saudi companies is 0.24, indicating that 24% of the average disclosure index has been disclosed.

| Variable | Mean | Median | Maximum | Minimum | St. Deviation |
|---|---|---|---|---|---|
| Y | 0.247943 | 0.23 | 0.47 | 0.14 | 0.061056 |
| BDSIZE | 8.198582 | 9 | 11 | 4 | 1.526995 |
| INDBD | 0.475674 | 0.44 | 1 | 0 | 0.146064 |
| MEET | 5.248227 | 5 | 25 | 2 | 2.541529 |
| CEOT | 5.134752 | 3 | 30 | 1 | 5.597474 |
| CEOA | 0.397163 | 0 | 1 | 0 | 0.491055 |
| CEOF | 0.673759 | 1 | 1 | 0 | 0.470508 |
| CSIZE | 17.87319 | 17.72 | 25.29 | 10.56 | 3.404648 |
| INDST | 0.531915 | 1 | 1 | 0 | 0.500759 |

**Table 2: Descriptive statistics of dependent variable and independent variable**

This study contains three main independent variables that discuss the characteristics of the BD. The first of these variables is the size of BD (BDSIZE). The average value of BDSIZE is 8.19, which means that the average number of BD members is 8. The maximum number of BD members is 11 and the minimum is 4. As for the other variable, the independence of BD members (INDBD), the average is 0.47. Which indicates that 47% of BD members are independent. The variable of BD meetings (MEET) has an average of 5.24, which means that the average number of BD meetings is 5 meetings per year.

This study also contains three secondary independent variables that discuss the characteristics of the CEO. First, the variable that raises the CEO tenure (CEOT), and the average for this variable is 5.13. This means that the average CEO tenure is 5 years. The average age of the CEO (CEOA) is 0.39, meaning that 39% of CEOs are aged 55 or older. The last variable is the CEO's educational background (CEOF) and has an average of 0.67. That is, 67% of CEOs in Saudi companies hold a degree in business administration or economics.

Moreover, control variables are related to the characteristics of the company. The variable that measures the size of the company (CSIZE) has an average value of 17.78, a maximum of 25.29 and a minimum of 10.56. The variable that determines the type of industry (INDST) has an average value of 0.53, meaning that 53% of companies operate in the industrial sector.

| | disc | BDSIZE | INDBD | MEET | CEOT | CEOA | CEOF | CSIZE | INDST |
|---|---|---|---|---|---|---|---|---|---|
| **disc** | 1 | | | | | | | | |
| **BDSIZE** | 0.010541 | 1 | | | | | | | |
| **INDBD** | 0.02046 | -0.21197 | 1 | | | | | | |
| **MEET** | 0.157055 | 0.099479 | 0.033122 | 1 | | | | | |
| **CEOT** | -0.11706 | -0.04912 | -0.03615 | -0.02848 | 1 | | | | |
| **CEOA** | -0.01068 | 0.036955 | -0.08542 | -0.08528 | 0.287032 | 1 | | | |
| **CEOF** | 0.068473 | 0.00134 | -0.15476 | -0.02737 | -0.11337 | 0.101078 | 1 | | |
| **CSIZE** | -0.09878 | 0.117196 | -0.14289 | 0.151416 | 0.166774 | 0.007995 | 0.118638 | 1 | |
| **INDST** | 0.033701 | -0.10176 | 0.205514 | -0.05959 | -0.1073 | 0.122372 | -0.16771 | -0.27085 | 1 |

**Table 3: Correlation matrix- Pearson test**

Table 3 highlights the Pearson correlation matrix. It is clear that the data in the table support the Pearson correlation test. It quantifies how changes in one variable are associated with changes in another variable, providing insights into potential dependencies or associations (Field, 2024). Some studies have also shown that if the correlation between variables exceeds 70%, it represents a risk of association (Hussainey et al., 2016). Accordingly, there is no multicollinearity between the study variables, as the highest value was recorded at 28% between the age of the CEO and the term of the CEO's tenure.

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| **C** | 0.225796 | 0.039838 | 5.667861 | 0 |
| **BDSIZE** | -0.0003 | 0.003492 | -0.08606 | 0.9316 |
| **INDBD** | 0.008978 | 0.036782 | 0.244091 | 0.8075 |
| **MEET** | 0.0038 | 0.002052 | 1.852008 | 0.0662 |
| **CEOT** | -0.00125 | 0.000977 | -1.2782 | 0.2034 |
| **CEOA** | 0.003943 | 0.011148 | 0.353749 | 0.7241 |
| **CEOF** | 0.00778 | 0.011293 | 0.688918 | 0.4921 |
| **R-squared** | 0.042368 | Mean dependent var | | 0.247943 |
| **Prob(F-statistic)** | 0.435981 | | | |

**Table 4: Data Analysis**

Table 4 shows the results of the data analysis for this study. The results showed that the size of the BD is negatively correlated with Coefficient = -0.0003, t-Statistic = -0.08606 and Prob = 0.9316. This result is consistent with the result of Alshirah et al., (2020) and Juhmani (2017) in the absence of a statistically significant relationship between the size of the BD and disclosure. The independence of the BD is positively correlated with Coefficient = 0.008978, t-Statistic = 0.244091 and Prob = 0.8075. This result reinforces what ALrbaa & ALmahamed (2020), Ibrahim et al., (2019) and Allini et al., (2015) concluded about there is no statistically significant relationship between the independence of the BD and the disclosure.

The regression results show that the number of BD meetings has a positive impact on the disclosure of the impact of COVID-19. But this relationship is not statistically significant, where Coefficient = 0.0038, t-Statistic = 1.852008 and Prob = 0.0662. This result is supported by both Allini et al., (2015) and Alshirah et al., (2020) in the lack of a statistically significant relationship. In addition, there is a negative association with the CEO's tenure, as Coefficient = -0.00125, t-Statistic = -1.2782 and Prob = 0.2034. Additionally, there is no statistically significant relationship between CEO tenure and disclosure of the impact of the COVID-19 pandemic in financial reports. This result is consistent with Pouryousof et al., (2024) finding on the negative impact of the CEO's tenure on disclosure, but contradicts his findings on the existence of a statistically significant relationship.

Regression analysis proved the existence of a positive relationship between the age of the CEO and the level of disclosure of the effect of COVID-19 in the financial reports of Saudi companies. Where the coefficient is 0.003943, t-Statistic = 0.353749 and Prob = 0.7241. These results are consistent with the study of Haider et al., (2019) and Jahan (2024) regarding the positive relationship between CEO age and disclosure. In addition, the results differ from previous studies in the lack of a statistically significant relationship. The impact of the CEO's educational background on the disclosure of the effect of COVID-19 in financial reports was positive at the coefficient = 0.00778, t-Statistic = 0.688918 and Prob = 0.4921. This is supported by the study of Trisnawati et al., (2023) and Oradi et al., (2020).

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.317554 | 0.074834 | 4.243428 | 0.0001 |
| BDSIZE | -0.00547 | 0.006548 | -0.83516 | 0.4067 |
| INDBD | -0.01512 | 0.060516 | -0.24988 | 0.8035 |
| MEET | 0.001832 | 0.004466 | 0.41014 | 0.6831 |
| CEOT | -0.00231 | 0.002022 | -1.14263 | 0.2574 |
| CEOA | -0.00653 | 0.017484 | -0.37373 | 0.7098 |
| CEOF | -0.0106 | 0.017828 | -0.59464 | 0.5542 |
| R-squared | 0.033122 | Mean dependent var | | 0.254225 |
| Prob(F-statistic) | 0.898168 | | | |

**Table 5: Data Analysis for Small Companies**

For further analysis, a regression test was conducted for company size, which is measured by the natural logarithm of company assets. The companies were divided into two sections, large companies if the size of the company => 17.87319 and small companies if the size of the company < 17.87319. A regression test was also conducted for the type of industry, which was divided into industrial and non-industrial companies.

Table 5 shows the results of the regression analysis for small companies (< 17.87319) and shows that some results differ from the general results in table 4. The independence of the BD, the relationship has become negative (coefficient = -0.01512 and t-Statistic = -0.24988), but the variable is still not statistically significant (Prob. =0.8035). CEO age turned the relationship into a negative as coefficient = -0.00653 and t-Statistic= -0.37373. Regarding the educational background of the CEO, the correlation turned negative in small companies at the coefficient = -0.0106 and t-Statistic= -0.59464. The rest of the variables did not differ much.

| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
|---|---|---|---|---|
| **C** | 0.171041 | 0.043886 | 3.897446 | 0.0002 |
| **BDSIZE** | 0.000724 | 0.003854 | 0.187819 | 0.8516 |
| **INDBD** | 0.028275 | 0.043194 | 0.654598 | 0.5151 |
| **MEET** | 0.005527 | 0.002058 | 2.685484 | 0.0092 |
| **CEOT** | -0.00071 | 0.001026 | -0.69403 | 0.4902 |
| **CEOA** | 0.01008 | 0.014199 | 0.709921 | 0.4804 |
| **CEOF** | 0.030522 | 0.013857 | 2.202697 | 0.0313 |
| **R-squared** | 0.172047 | Mean dependent var | | 0.241571 |
| **Adjusted R-squared** | 0.093194 | S.D. dependent var | | 0.053423 |
| **Log likelihood** | 112.8518 | Hannan-Quinn criter. | | -2.93503 |
| **F-statistic** | 2.181878 | Durbin-Watson stat | | 2.016142 |
| **Prob(F-statistic)** | 0.05637 | | | |

**Table 6: Data Analysis for Large Companies**

Table 6 shows the regression results for large Companies (=> 17.87319). The impact of the size of the BD on disclosure has become positive in large companies, as the coefficient =0.000724 and t-Statistic =0.187819. The number of BD meetings still has a positive impact on disclosure when the coefficient is 0.005527 and t-Statistic =2.685484. But the impact of the number of BD meetings became statistically significant (Prob.=0.0092). The CEO's educational background has a positive impact on disclosure (coefficient =0.030522and t-Statistic=2.202697). But this relationship became statistically significant when the probability=0.0313. The effect of other variables did not differ from the previous one.

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.309305 | 0.067418 | 4.587837 | 0 |
| BDSIZE | -0.00905 | 0.005795 | -1.56139 | 0.1238 |
| INDBD | 0.006392 | 0.057452 | 0.111254 | 0.9118 |
| MEET | 0.002405 | 0.00346 | 0.695259 | 0.4896 |
| CEOT | -0.00102 | 0.001266 | -0.80923 | 0.4216 |
| CEOA | 0.00104 | 0.016885 | 0.061621 | 0.9511 |
| CEOF | 0.002443 | 0.018671 | 0.130825 | 0.8964 |

| | | | |
|---|---|---|---|
| R-squared | 0.065795 | Mean dependent var | 0.245758 |
| Adjusted R-squared | -0.02921 | S.D. dependent var | 0.059279 |
| F-statistic | 0.692552 | Durbin-Watson stat | 1.605655 |
| Prob(F-statistic) | 0.656471 | | |

**Table 7: Data Analysis for Non-Industrial Companies**

Table 7 shows the results of the regression of non-industrial companies. For non-industrial companies, the regression results did not differ significantly from the results of the main regression in Table 4, as the direction of the relationship remained the same.

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| **C** | 0.192922 | 0.052143 | 3.699857 | 0.0004 |
| **BDSIZE** | 0.004517 | 0.004675 | 0.966189 | 0.3374 |
| **INDBD** | 0.000297 | 0.050938 | 0.005826 | 0.9954 |
| **MEET** | 0.004282 | 0.002694 | 1.589776 | 0.1165 |
| **CEOT** | -0.00165 | 0.001673 | -0.98838 | 0.3265 |
| **CEOA** | 0.001447 | 0.01599 | 0.090512 | 0.9281 |
| **CEOF** | 0.00909 | 0.015404 | 0.590122 | 0.5571 |
| **R-squared** | 0.077446 | Mean dependent var | | 0.249867 |
| **Adjusted R-squared** | -0.00396 | S.D. dependent var | | 0.062913 |
| **Log likelihood** | 104.5556 | Hannan-Quinn criter. | | -2.51512 |
| **F-statistic** | 0.951397 | Durbin-Watson stat | | 1.383632 |
| **Prob(F-statistic)** | 0.4647 | | | |

**Table 8: Data Analysis for Industrial Companies**

Table 8 shows the regression results for industrial companies, which show some differences from the main results. BD size turned the correlation positive but not statistically significant (coefficient =0.004517, t-Statistic=0.966189 and Prob.= 0.3374). On the other hand, the rest of the variables still give the same direction of the relationship.

## Conclusion and Implications

This study examines the impact of BD and CEO characteristics on Saudi companies' disclosure of the effect of COVID-19 in financial reports. As a result of the circumstances that befell the entire world during the spread of the COVID-19 virus, disclosure issues emerged in 2020. A major economic contraction occurred as a result of the closures and restrictions imposed (Liu, 2023). All of this resulted in a high level of uncertainty, which led the international bodies concerned with providing international standards to issue a number of guidance bulletins to help or reduce the levels of uncertainty as much as possible (Arnold & Gould, 2020). Therefore, this study sought to understand the impact of the characteristics of the BD and the characteristics of the CEO on the disclosure of the effect of COVID-19 in the financial reports of Saudi companies in 2020.

The study is based on the agency theory, which is the most important theory that explains the impact of BD characteristics on disclosure. This theory is based on the fact that the goals of stakeholders (such as shareholders) differ from the goals of the agent (company management), which causes the existence of agency costs. To reduce this cost, corporate governance principles such as disclosure can be implemented.

The study also relied on the upper echelons theory. This theory is based on understanding the relationship between demographic characteristics, cognitive patterns, and strategic management choices and their relationship to performance. Since the decisions of CEOs are influenced by their characteristics, they ultimately affect the performance of companies (Hambrick & Mason, 1984).

Disclosure is of great importance because it provides stakeholders (shareholders, investors, employees, etc.) with information that may support decision-making. Studies related to disclosure indicate that there are a group of factors that have a noticeable impact on it. The most important influences are the characteristics of the BD, such as the size of the BD, the number of BD meetings, and the independence of BD members (ALrbaa & ALmahamed, 2020; Allini et al., 2015). The characteristics of the CEO are also among the factors influencing disclosure (Agustina & Sudibyo, 2022; Cahyono et al., 2024). In addition to the impact of some other factors such as the size of the company and the type of sector (Alfraih, 2016; Habbash, 2014).

The study focused on Saudi non-financial companies during 2020. Data was also collected from the financial statements and board reports attached to Tadawul. The index prepared by the researcher was used to measure the disclosure of the impact of COVID-19 in financial reports. The study sample consisted of 141 companies after excluding some companies for lack of data.

The study analyzed the extent to which BD and CEO characteristics influence the disclosure of the effect of COVID-19 in the financial reports of Saudi companies. Descriptive analysis showed that the average disclosure of the effect of COVID-19 in financial reports was 0.24. In the event that the previous average is compared to what Elmarzouky et al., (2021)reached (11.9), a difference is noted, and this is justified by the difference in the disclosure measurement index and the difference in the study sample.

Regression analysis indicates that there are associations between BD characteristics and CEO characteristics, but they do not have a significant impact on the disclosure of the effect of COVID-19 in financial reports. The main analysis shows the negative impact of BD size on disclosure, which may be attributed to the fact that larger BD increase communication and coordination problems among their members. The independence of the members of the BD had a positive impact on disclosure, as the independence of the member increases the process of making independent decisions and reduces conflicts of interest. The number of BD meetings also has a positive impact on disclosure, and the frequency of BD meetings may play a role in improving the efficiency of consultation between management and BD members. However, the CEO's tenure had a negative impact on disclosure, as the CEO's long tenure in office may make him feel more comfortable, which limits his attempts to make changes or improve the disclosure process. The age of the CEO had a positive impact on disclosure and may be a result of his long experience in the business and his efforts to achieve a good reputation that contributes to the quality of disclosure. The CEO's educational background had a positive impact on disclosure, perhaps due to his practical experience in the financial aspect, which enhances his deeper understanding of the disclosure process.

The results differed slightly after analyzing the company size. In large companies, the effect of BD size on disclosure shifted from negative to positive, while in small companies the effect remains the same. As for the independence of the BD in large companies, its impact did not differ except for small companies, where its impact became negative. Regarding BD meetings in large companies, it was statistically significant, unlike small companies. The CEO's tenure did not differ in large or small companies from having a negative impact in the main analysis. The age of the CEO in small companies has changed and has a negative impact on disclosure. The educational background of the CEO in large companies had a positive and statistically significant effect, unlike small companies, where the effect was negative.

Sector analysis showed a slight difference. The difference was in the transformation of the effect of the size of the BD to a positive one on disclosure in industrial companies.

So, the study results indicate that the characteristics of the BD and the characteristics of the CEO do not play a significant role in disclosing the impact of COVID-19 in the financial reports of Saudi companies.

In summary, the results have meaningful implications for regulators, policymakers, and corporate decision-makers in Saudi Arabia and similar contexts. First, corporate governance frameworks could emphasize the importance of active board involvement, especially during periods of uncertainty. Second, when appointing CEOs, companies might benefit from considering candidates' educational backgrounds to strengthen financial communication and disclosure practices. Lastly, regulators might design specific guidelines that encourage companies, particularly smaller firms, to improve the quality and completeness of their crisis-related disclosures to better inform investors and stakeholders.

For future research, it is possible to expand the study period to include years before or years after the pandemic. It may also be useful to study other characteristics of the BD and the CEO. Another indicator can also be used to measure the disclosure of the impact of COVID-19 in financial reports. Finally, the study relied on the content analysis method only, so other methods such as questionnaires and interviews can be used.

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