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FACTORS SHAPING CORPORATE SOCIAL DISCLOSURE PRACTICES: EVIDENCE FROM THE SAUDI ARABIAN CONTEXT

This research investigates factors influencing corporate social disclosure (CSD) within the context of Saudi Arabia. Specifically, it examines how corporate governance attributes and company characteristics impact the extent of CSD. The study utilizes data from 435 firm-year observations spanning 87 companies listed on Saudi Exchange (Tadawul) during 2015-2019. CSD levels are gauged using an unweighted disclosure index derived from the Global Reporting Initiative (GRI) framework.
The results reveal a negative effect of board size on CSD, suggesting that smaller boards may encourage more comprehensive disclosures. Conversely, the effects of board independence and audit committee independence are insignificant. In line with theoretical predictions, larger, profitable, manufacturing companies, as well as those involved in international operations, tend to disclose more social information. The current research contributes to the literature, addressing conflicting findings on the effects of board characteristics and profitability, and exploring the underexplored roles of audit committee independence and internationalization.

Keywords: corporate social disclosure, corporate governance, company characteristics.

1. INTRODUCTION

In recent decades, the topic of corporate social disclosure (CSD) has garnered significant research interest as a means by which organizations convey environmental effects and social influence to stakeholders (Gray et al., 1987; Mathews, 1993). Through the voluntary dissemination of qualitative and quantitative information pertaining to their non-financial performance, companies exemplify a sense of accountability extending beyond conventional financial reporting (Gray et al., 1987). The increasing global emphasis on sustainable development and corporate transparency has prompted companies to prioritize CSD as a strategic imperative (Deegan, 2002; Khan et al., 2009).

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The Kingdom of Saudi Arabia has pursued regulatory reforms through the Capital Market Authority and Saudi Stock Exchange, evidencing intent to promote sustainability. The CMA's Corporate Governance Code (2023) and the Saudi Stock Exchange ESG Disclosure Guidelines (2021) denote the nation's commitment to enhancing transparency and aligning with global sustainability standards. However, prior empirical evidence suggests that CSD in Saudi Arabia remains nascent, lagging behind benchmarks in developed countries (Alazzani et al., 2019).

Literature have extensively examined CSD determinants across different contexts, relating disclosure to company characteristics and governance mechanisms (Branco and Rodrigues, 2008; Reverte, 2009; Gamerschlag et al., 2011). However, the results are inconclusive, with relationships often showing mixed or conflicting results. Additionally, research on CSD drivers in Saudi Arabia is limited (Macarulla and Talalweh, 2012; Razak, 2015; Abdulhaq and Muhamed, 2015; Alotaibi and Hussainey, 2016).

To address such gaps, this study investigated the influence of specific attributes within corporate governance (board size, board independence, audit committee independence) and company characteristics (size, profitability, internationalization) on the CSD practices of listed Saudi companies. Based on an analysis of 435 firm-year data points collected between 2015 and 2019, this paper aims to advance understanding of CSD determinants as the Saudi market evolves. Novel contributions include considering previously under-researched effects of internationalization and audit independence, as well as reconciling mixed findings related to board attributes and company financial performance. However, the study is limited by its reliance exclusively on information from annual reports for CSD data, coupled with the utilization of an unweighted disclosure index.

Following this introduction, the paper proceeds as follows: Section 2 outlines the literature review. Section 3 develops the research hypotheses. Section 4 elaborates on the research methodology, covering data collection, variable measurement, and analytical approach. Section 5 presents the empirical findings and reviews the results and their implications. Finally, Section 6 offers a conclusion, acknowledges limitations, and suggests recommendations for further research.

2. LITERATURE REVIEW

Corporate social disclosure (CSD) refers to the voluntary communication by organizations of their social and environmental activities and their impacts to stakeholders and society (Mathews, 1993). It extends corporate accountability beyond traditional financial reporting, reflecting the acknowledgment that companies have wider obligations than simply producing profits for their shareholders (Gray et al., 1987).

While there is no unified definition as CSD is perceived differently and evolves over time and context (Ince, 1998; Giannarakis 2014). It commonly covers topics like environmental matters, fair business practices, community involvement, human resources, and other social matters, like energy conservation, pension data, disabled employment, etc. (Gray et al., 1995; Saaydah, 2005). Companies employ channels such as annual reports, websites, advertising, and public relations for CSD (Waller and Lanis, 2009). These practices offer potential benefits, including enhanced decision-making, operational efficiencies, risk reduction, improved reputation, and stakeholder engagement (Khan et al., 2009). It allows overcoming information asymmetries by presenting performance favorably through discretionary reporting (Merkl-Davies and Brennan, 2007). While

implementing corporate social responsibilities (CSR) incurs costs, sustainable CSR can attract investors and increase company value (Tjia and Setiawati, 2012).

Saudi government has initiated reforms to promote sustainable development and environmental stewardship through vision 2030. In 2017, the Capital Market Authority issued corporate governance guidelines (amended 2023), emphasizing social responsibility (Articles 87-88) to improve transparency and attract investment. In 2021, the Saudi Exchange published ESG Disclosure Guidelines on workforce policies, ethical procurement, labour rights, and tax transparency to raise ESG awareness and align with UN standards. In 2023, the GCC Exchanges Committee, led by Saudi Arabia, released 29 voluntary ESG indicators for listed GCC companies, covering emissions, energy/water usage, wage parity, workforce diversity, data privacy, and ethics. However, research suggests governance reforms may not directly improve ESG reporting (Chebbi and Ammer, 2022). Legal frameworks lag in driving sustainability goals (Abo Shareb, 2023). The voluntary nature of guidelines allows managerial discretion, potentially undermining transparency. Further reforms may strengthen ESG commitments and disclosures.

Since Ernst and Ernst's (1978) pioneering work, a growing body of research has aimed to measure CSD levels and identify influential factors, primarily in developed countries (Ho and Taylor, 2007; Branco and Rodrigues, 2008; Reverte, 2009; Tagesson et al., 2009; Gamerschlag et al., 2011; Aburaya, 2012; Kolk and Fortanier, 2013; Giannarakis, 2014; Dyduch and Krasodomska, 2017). Relatively fewer studies have explored CSD in developing countries (Saaydah, 2005; Haniffa and Cooke, 2005; Sukcharoensin, 2012; Wang et al., 2013; Grecco et al., 2013; Mousa et al., 2018; Aryassi et al., 2020).

These studies commonly employed content analysis using self-constructed disclosure indices (Haniffa, Cooke, 2005; Ho, Taylor, 2007; Branco, Rodrigues, 2008), existing indices (Grecco et al., 2013; Dyduch, Krasodomska, 2017), third-party sustainability ratings (Reverte, 2009; Giannarakis, 2014; Aryassi et al., 2020), or other approaches like sentence counting (Saaydah, 2005) or word counting (Gamerschlag et al., 2011). CSD drivers include financial characteristics, company characteristics, and corporate governance attributes, with multiple regression being the primary statistical method. While factors like profitability, size, industry, and board characteristics have been extensively studied, others like media exposure (Reverte, 2009), internationalization (Branco and Rodrigues, 2008), and reputation (Dyduch, Krasodomska, 2017) have received less attention. Nevertheless, the findings from these studies have yielded mixed results, with specific relationships remaining inconclusive (see section 3).

In Saudi Arabia context, eight studies were found to be relevant to the study topic, revealing relatively low levels overall (Macarulla, Talalweh, 2012; Razak, 2015; Abdulhaq, Muhamed, 2015; Alotaibi, Hussainey, 2016; Habbash, 2016; Issa, 2017; Ben Mahjoub, 2019; Boshnak, 2022). These studies explored the influence of various corporate governance attributes, firm characteristics, and other factors on CSD, with mixed findings reported.

This study has significant contributions to the literature on CSD practices. It aims to contribute to the ongoing discourse by investigating the impact of certain corporate governance attributes (board size, board independence, audit committee independence) and corporate characteristics (company size, company profitability, and internationalization) on CSD in the Saudi Arabia context, while controlling for company leverage, company age, and industry type. As far as we are aware, this is the first study, within the context of Saudi Arabia, to analyze the effects of audit committee independence and

internationalization on CSD, offering valuable insights into factors that shape such practices.

Existing literature has presented mixed findings regarding the correlation between corporate governance attributes, corporate characteristics, and CSD in Saudi Arabia. By examining these constructs alongside additional control variables and utilizing a broader sample size, this study endeavors to resolve inconsistencies in the existing literature and offer deeper empirical insights into CSD practices in the Saudi Arabian context.

Previous investigations into CSD within the Saudi context have been limited by relatively small sample sizes. For example, the largest study included 344 firm-year observations (Alotaibi, Hussainey, 2016). In contrast, the current study analyzes 440 firm-year observations spanning the years 2015 to 2019, allowing for more robust inferences and generalizability. Furthermore, by adopting the identical fourth-generation Global Reporting Initiative disclosure index utilized in earlier Saudi studies (Alotaibi, Hussainey, 2016; Issa, 2017; Boshnak, 2022), the present research complements and enhances comparability with prior works, thus improving the precision and comprehensiveness of analyzing CSD trends.

3. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Various theories (e.g. legitimacy, agency, signalling) seek to explain motivations for CSD. This study uses agency and legitimacy theories. It adopts a multi-theoretical lens for a holistic understanding of influencing factors among Saudi Arabian companies.

3.1. Agency theory

Agency theory provides a framework for understanding the relationship between owners (principals) and managers (agents) within firms (Jensen, Meckling, 1976). It addresses the principal-agent problem that arises between shareholders and managers. The fundamental issue is that the objectives of shareholders and management may not always be perfectly aligned. While shareholders seek to optimize the company's value for their own benefit as owners, management may be motivated by other factors such as compensation, job security, and reputation (Fama, Jensen, 1983). This misalignment of interests creates "agency costs" as shareholders must allocate resources to monitor management behavior and create incentives for managers to prioritize shareholders' welfare (Jensen, Meckling, 1976).

Increased transparency through voluntary disclosures like CSR reporting can help mitigate agency costs (Merkl-Davies and Brennan, 2007). By providing more information about their environmental, social, and governance policies and practices, managers can demonstrate to shareholders that they are responsible stewards focused on long-term value creation rather than short-term self-interest (Aburaya, 2012). Enhanced transparency holds management accountable and fosters trust with investors and the public.

Board size

According to agency theory, an increased number of board members can potentially enhance the board's capacity for oversight and monitoring of management. A larger board size is purported to introduce a more diverse array of expertise and better monitoring capabilities (Xie et al., 2003), which may facilitate improvements in the efficacy of the reporting system, thereby leading to greater transparency and disclosure practices (Aburaya, 2012). However, Jensen (1993) argues that a large board can diminish its

effectiveness and increase the potentiality for CEOs to exercise control and manipulate the board. Due to the dispersal of opinions and lack of cohesiveness in viewpoints, a too-large board may exhibit reduced monitoring capabilities (Cheng, Courtenay, 2006), therefore hindering its ability to ensure adequate disclosure (Rao, Lester, 2012). However, these difficulties can be mitigated by using subcommittees that can enhance coordination and communication among board members (Aburaya, 2012).

Previous studies such as Ho and Taylor (2007), Giannarakis (2014), and Mousa et al. (2018) found a positive relationship between board size and the extent of CSD, while Dyduch, Krasodomska (2017) and Aryassi et al. (2020) reported a non-significant relationship. In the context of Saudi Arabia, Alotaibi and Hussainey (2016) found a positive relationship between board size and the extent of CSD, whereas Issa (2017) reported no significant relationship. Based on the preponderance of previous studies, we propose the following hypothesis:

H1: There is a positive correlation between the level of CSD and board size.

Board independence

In line with the principles of agency theory, independent directors can play an oversight role curtailing potential opportunistic managerial behaviors (Haniffa, Cooke, 2002). Independent directors exhibit less susceptibility to management influence and are better positioned to strengthen monitoring effectiveness by encouraging transparent information dissemination (Cheng, Courtenay, 2006; Rao and Lester, 2012). Beyond independence, such directors may also demonstrate a stronger sense of social accountability (Aburaya, 2012). They are more inclined to prioritize corporate social and environmental responsibilities (Beniamin et al., 2008). This can lead to more informed managerial decision-making aligned with shareholder and stakeholder objectives (Rao, Lester, 2012), thereby increasing levels of corporate social disclosure (CSD) (Haniffa, Cooke, 2002; Aburaya, 2012).

Empirical evidence regarding the relationship between board independence and CSD has produced mixed results. Studies by Mousa et al. (2018) and Aryassi et al. (2020) found a positive correlation between board independence and CSD, while Aburaya (2012) identified a negative correlation. Within Saudi Arabia, Issa (2017) reported a negative relationship, whereas Alotaibi and Hussainey (2016) and Habbash (2016) found no significant association. Given the inconclusive nature of prior findings, the following hypothesis is proposed:

H2: There is a positive correlation between the level of CSD and board independence.

Audit committee independence

In the realm of overseeing corporate affairs, the audit committee represents a pivotal entity, facilitating communication among stakeholders, including internal and external auditors, to safeguard shareholder interests. This committee plays a crucial role in improving internal controls, overseeing financial reporting processes, and managing risks (Chau, Gray, 2010). One of the core factors impacting audit committee effectiveness relates to involvement from independent directors, which, from an agency theory viewpoint, introduces objectivity, mitigating information asymmetries, and enhancing impartial decision-making (Xie et al., 2003; Aburaya, 2012). Consequently, audit committees primarily composed of independent members foster credibility, transparency, and voluntary disclosures. This perspective finds support from prior empirical studies linking

independent audit committee members to elevated CSD levels (Cheng and Courtenay, 2006). Therefore, we propose the following hypothesis:

H3: There is a positive correlation between the level of CSD and Audit committee independence.

3.2. Legitimacy theory

The legitimacy theory proposes that organizations exist within the broader context of society and have an implicit social contract to operate in alignment with societal values, norms, and expectations (Cho, Patten, 2007). It argues that organizations must not merely function within the boundaries of societal norms and values but actively demonstrate that their actions and conduct are consistent with prevalent societal expectations (Deegan, 2002).

The concept of a "legitimacy gap" emerges when organizational actions and values diverge from overarching societal paradigms, representing a substantial threat by potentially diminishing demand, labor/resource provider loyalty, and increasing regulatory interventions via stakeholder lobbying (Deegan, 2002).

To preserve and enhance legitimacy, companies engage in disclosure pertaining to environmental and social initiatives (Branco, Rodrigues, 2008). Through sustainability reporting, corporations aim to signal adherence to societal requirements by conveying operational, accountability and impact transparency to stakeholders (Milne, Patten, 2002). This seeks to reconcile any discrepancy between corporate behaviour and societal concerns (Deegan, 2002). Voluntary CSD is a tool for companies to demonstrate fulfilling broader expectations, and thereby maintain legitimacy vital to sustain operations and social acceptance (Deegan, 2002).

Company size

Legitimacy theory suggests that a company's sustainability hinges on its acceptance by society (Deegan, 2002). Larger companies are viewed as significant economic entities given the social and environmental consequences of their operations (Hackston, Milne, 1996). As a result, these companies face increasing scrutiny from society and stakeholders (Sukcharoensin, 2012). larger companies to maintain a favorable reputation and enhance legitimacy, they are anticipated to convey more information concerning their social and environmental efforts and engagements (Hackston, Milne, 1996).

Numerous studies have identified a positive correlation between company size and the scope of CSD, with larger companies tending to provide more social responsibilities information (Macarulla, Talalweh, 2012; Alotaibi and Hussainey, 2016; Issa, 2017; etc.). However, the evidence is mixed. A study by Al-Tuwaijri et al. (2004) reported a negative correlation between corporate environmental disclosure and company size. Meanwhile, other research found an insignificant correlation, for instance, the research conducted by Mousa et al. (2018) and Aryassi et al. (2020). Despite mixed evidence, the consensus supports the hypothesis that:

H4: There is a positive correlation between the level of CSD and company size.

Company profitability

From a legitimacy theory perspective, Haniffa and Cooke (2002) suggest that profitable companies, as a means of justifying their continued operations tend to be more inclined to provide information on CDR to their audience compared to less profitable companies. Profitable ones face greater social demands and public scrutiny due to their resources and

flexibility. They can effectively communicate their CSR initiatives to engage stakeholders extensively, thus strengthening their legitimacy (Giannarakis, 2014; Haniffa, Cooke, 2002) and maintaining a favorable reputation (Boshnak, 2022). Failing to do so can raise the risk of being associated with actions that breach societal expectations (Gamerschlag et al., 2011).

Numerous studies have presented mixed findings on the association between CSD and profitability. The most researchers (Saaydah, 2005; Tagesson et al., 2009; Gamerschlag et al., 2011; Macarulla, Talalweh, 2012; Razak, 2015; Issa, 2017; Aryasri et al., 2020) identified a positive correlation, while Ho and Taylor (2007) found a negative association. Others, including Reverte (2009), Abdulhaq and Muhamed (2015), Alotaibi and Hussainey (2016), Habbash (2016), and Boshnak (2022), reported an insignificant correlation. Drawing from this diverse literature, we suggest the following hypothesis:

H5: There is a positive correlation between the levels of CSD and Company Profitability.

Internationalization

Internationalization, defined by Zahra and George (2002), as cited in Dyduch and Krasodomska (2017), as the strategic endeavour of innovatively identifying and capitalizing on opportunities beyond a company's domestic market to gain a competitive edge, presents a multifaceted landscape for companies. As companies expand their global footprint, they encounter diverse stakeholder expectations, regulatory frameworks, and institutional pressures across multiple markets (Branco, Rodrigues, 2008). Kolk and Fortanier (2013) argue that cross-border companies face stronger and more diverse threats to their legitimacy across different operational contexts. Issues or controversies in one location may spillover and tarnish their reputation in other regions.

This increased exposure and scrutiny from the international community compel companies to adopt more stringent social and environmental strategies and disclose more comprehensive information (Branco, Rodrigues, 2008; Kolk, Fortanier, 2013). The necessity for such measures arises from the need to forge positive reputations as corporate citizen in the perception of new host communities. Additionally, the evolving systems of global governance offer encouragement for increased CSR commitments (Chapple and Moon, 2005). Consequently, internationalization is expected to force companies to be more proactive in their CSR endeavours (Branco, Rodrigues, 2008), aligning with the global trend of pro-social responsibility initiatives (Chapple, Moon, 2005).

Dyduch and Krasodomska (2017) found a positive correlation between internationalization and CSD of Polish companies, while Kolk and Fortanier (2013) found a negative correlation in the Fortune Global 250. Moreover, Branco and Rodrigues (2008) reported no significant correlation between the two variables in Portuguese companies. Given this diverse empirical evidence, we propose the following hypothesis:

H6: There is a positive correlation between the level of CSD and Internationalization.

4. RESEARCH METHODOLOGY

4.1. Data and sample selection

The study drew the sample from publicly listed companies on the Saudi Stock Exchange (Tadawul) within the timeframe of 2015 to 2019. Out of the total 201 companies listed on Tadawul during this period, 116 companies were randomly selected. 12 companies categorized under financial and insurance sectors were excluded from the study.

Furthermore, 17 companies with missing data on the study variables were also omitted. Consequently, the final sample comprised 87 companies, representing 43.28% of the listed companies, operating in nine sectors according to the Tadawul industry classification, as shown in Table 1. The aim of the random selection process was to secure a sample of the population that is representative, without the application of any particular stratification criteria. Data collection was conducted from the annual reports of the sample companies spanning a five-year duration, yielding a total of 435 firm-year observations. These annual reports were acquired from both the companies' websites and the official repository of Tadawul, ensuring access to comprehensive and reliable data.

Table 1. Industry classification

Industry sector	N	%
Energy	2	2.29
Materials	26	29.88
Industrials	14	16.09
Consumer discretionary	16	18.39
Consumer staples	12	13.79
Health care	5	5.74
Telecommunication services	4	4.59
Utilities	2	2.29
Real estate	6	6.89
Total	87	100

Source: Authors.

4.2. Dependent variable measurement

To operationalize the evaluation of CSD within corporate annual reports, the study employed content analysis, a reliable method for assessing both the quantity and quality of disclosure (Branco, Rodrigues, 2008; Aburaya, 2012). This involved using an unweighted disclosure index based on a dichotomous approach, which was developed using the fourth-generation framework for sustainability reporting provided by the Global Reporting Initiative (GRI, 2013). This GRI framework has been widely used in previous CSD studies, including in Saudi Arabia (Gamerschlag et al., 2011; Issa, 2017; Alotaibi, Hussainey, 2016; Boshnak, 2022). Annual reports were manually reviewed based on the GRI's social and environmental dimensions checklist with 5 categories and 42 sub-categories. Items were scored 1 for presence and 0 for absence.

Through the adoption of the unweighted dichotomous approach, this study emphasizes the breadth of social disclosures rather than relative importance, depth, or length (Monteiro, Aibar-Guzman, 2010). Moreover, employing such an approach increases objectivity in determining item weights (Aburaya, 2012). The level of CSD, represented by the CSD Index (CSDI), was quantified using Equation (1):

$$\text{CSD index (CSDI)} \equiv \frac{\sum_{i=1}^{n} D_i}{M} \times 100 \tag{1}$$

In this equation, Di takes the value of 1 if disclosure item i is present and 0 if it is absent. M denotes the maximum attainable disclosure score, while n represents the total number of disclosed items.

4.3. Operationalization of predictor and control variables

The approach to quantifying the explanatory and control variables is elucidated in Table 2. Within the current study, corporate governance attributes (board size, board independence, and audit committee independence) and corporate characteristics (company size, company profitability, and internationalization) were examined as independent variables to assess their impact on CSD. Additionally, to mitigate the risk of model misspecification and account for confounding variables influencing CSD, certain corporate characteristics were included as control variables. Prior scholarly investigations have shown that company size, company leverage, and industry type may significantly influence CSD extent (e.g., Aburaya, 2012; Habbash, 2016; Boshnak, 2022; Aryassi et al., 2020). Measurement methods for these variables were adapted from prior studies (e.g., Branco, Rodrigues, 2008; Reverte, 2009; Tagesson et al., 2009; Giannarakis, 2014; Dyduch, Krasodomska, 2017).

Table 2. Independent and control variables measurement

Variable	Measure
Independent variables	
Board Size (Bsize)	Number of directors
Board Independence (Bind)	Proportion of independent directors
Audit Committee Independence (ACind)	Proportion of independent members on audit committee
Company Size (Fsize)	Natural logarithm of total assets
Company Profitability (Fprof)	return on assets (ROA)
Internationalization (Inter)	A binary variable captured firms' international presence, coded 1 if the company had foreign subsidiaries, exported products, or operated overseas markets, and 0 otherwise.
control variables	
Company Leverage (Flever)	Debt-to-equity ratio
Company age (Fage)	The duration since the company was founded, measured in years.
Industry Type (InType)	A binary variable captured firms' industry classification, coded 1 if the company operated in the chemicals, petrochemicals, engineering, or cement manufacturing sectors, and 0 otherwise.

Source: Authors.

4.4. Model specification

This study employs a multiple regression analysis approach to examine the determinants of CSD levels. The analysis is conducted using an ordinary least squares (OLS) estimation technique. The regression model incorporates both independent variables of interest and control variables to account for potential confounding factors that may influence CSD based on prior literature and theoretical considerations. The independent variables included in the model are board size (Bsize), the proportion of independent

directors on the board (Bind), audit committee independence (ACind), company size (Fsize), company profitability (Fprof), and internationalization (Intern). Additionally, the model controls for company leverage (Flever), company age (Fage), and industry type (InType) as these factors have been determined as potential drivers of CSD in prior research. The multiple regression equation can be formulated as follows:

$$\begin{aligned} CSDI = {} & \alpha_0 + \alpha_1(Bsize) + \alpha_2(Bind) + \alpha_3(ACind) + \alpha_4(Fsize) + \alpha_5(Fprof) + \\ & + \alpha_6(Intern) + \alpha_7(Flever) + \alpha_8(Fage) + \alpha_9(InType) + \varepsilon \end{aligned} \quad (2)$$

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, Bind, ACind, Fsize, Fprof, and Intern); α_7, α_8, α_9 are the parameters of the control variables (Flever, Fage, InType); ε denotes the residual error.

5. RESULTS

5.1. Descriptive statistics

Panel A shows that the mean value of the dependent variable, CSD score, is 0.352, indicating a low level of CSD among the sampled companies. The CSD scores range from a minimum of 0.120 to a maximum of 0.947, indicating variation in the extent of CSD among different companies. This finding is consistent with Abdulhaq and Muhamed (2015), who found that the Saudi CSD average level is 0.36, highlighting the persistence of low levels of CSD over time. The finding also aligns with the conclusions of Alazzani et al. (2019), who determined that environmental disclosures from companies in the GCC region, including Saudi Arabia, are still in their nascent stages and trail significantly behind the disclosures made by companies in developed nations. While some companies exhibit relatively low levels of CSD, others are actively engaged in disclosing social information, indicating potential areas for improvement. The findings highlight the necessity for Saudi companies to bolster their CSD and compliance with corporate governance requirements.

As for the independent variables, the average board size is nine members, ranging from five to fifteen members. On average, 53.2% of board members across the sample consist of independent directors, indicating that more than half of the board members are independent directors on average. However, the minimum value of 0.125 suggests that some companies have a lower level of board independence. The proportion of independent directors comprising audit committees shows a relatively higher mean value of 0.682, ranging from a minimum of 0.213 to a maximum of 1.000. This observation suggests that audit committees tend to exhibit a more pronounced degree of independence in their composition compared to the overarching boards of directors.

Company size, measured by the natural logarithm of total assets, has an average of 9.009, ranging from 5.223 to 12.326. Profitability, proxied by return on assets (ROA), has an average of 0.051. The minimum ROA is -0.351, while the maximum is 0.417, indicating a wide range of profitability levels among the sampled companies. Regarding the control variables, company leverage, measured by the debt-to-equity ratio, has a mean of 0.389, ranging from 0.014 to 0.915, suggesting varying capital structures among the companies. Finally, the company age has an average of 25.438 years, with the youngest company being 6 years old and the oldest company being 58 years old.

In Panel B, 62.06% of the sample companies are classified as manufacturing companies, while 37.93% belong to non-manufacturing sectors. Furthermore, the analysis reveals that 33.33% of the companies are characterized as internationalized, indicating their active involvement in cross-border operations and engagement with international markets.

Conversely, the majority, comprising 66.66% of the sample, are classified as non-internationalized entities, primarily operating within their respective domestic domains and markets.

Table 3. Descriptive statistics for data variables

Panel A – Dependent, Independent and Control Variables					
Variables	N	Mean	Std. Deviation	Min	Max
CSDI	435	0.352	0.168	0.120	0.947
Bsize	435	8.795	1.829	5	15
Bind	435	0.532	0.147	0.125	1
ACind	435	0.682	0.764	0.213	1
Fsize	435	9.009	1.148	5.223	12.326
Fprof	435	0.051	0.963	-0.351	0.417
Flever	435	0.389	0.171	0.014	0.915
Fage	435	25.438	13.546	6	58
Panel B – Dummy Variables					
Variables				Frequency	%
Industry type	Manufacturing companies			54	62.06
	Non- Manufacturing companies			33	37.93
Internationalization	Internationalized companies			29	33.33
	Non-Internationalized companies			58	66.66

Source: Authors' calculations.

5.2. Correlation analysis

The results of the Pearson correlation analysis, as presented in Table 4, reveal several significant findings regarding the extent of CSD and its relationship with various factors. Notably, CSD demonstrates positive correlations with company size ($p < 0.01$), company profitability ($p < 0.05$), and internationalization ($p < 0.05$). This suggests that larger companies, profitable entities, and those engaged in international operations tend to disclose more social information, consistent with the study's expectations. However, contrary to the study's hypotheses, board size ($p < 0.05$) exhibits a negative correlation with the extent of CSD. Moreover, neither board independence ($p > 0.05$) nor audit committee independence ($p > 0.05$) show significant correlations with the extent of CSD. Regarding the control variables, industry type ($p < 0.01$) demonstrates a positive correlation with CSD. However, company leverage ($p > 0.05$) and company age ($p > 0.05$) do not exhibit significant correlations with the extent of CSD.

The results presented in Table 4 also confirm the absence of severe multicollinearity issues among the independent variables. According to Gujarati (2003), multicollinearity becomes problematic when the correlations between explanatory variables are strong and significant. While there is a moderate correlation of 0.776 between board independence and audit committee independence, the correlation coefficients between other independent variables are relatively low. Furthermore, the low variance inflation factor (VIF) values in Table 5, with the highest being 1.748, are well below the commonly accepted threshold of 5 or 10. These VIF values, along with the low correlations, indicate that the model does not suffer from serious multicollinearity concerns.

Table 4. Correlation results

	CSDI	Bsize	Bind	ACind	Fsize	Fprof	Inter	Flever	Fage	InType
CSDI	1									
Bsize	-0.178*	1								
Bind	0.247	-0.258	1							
ACind	0.074	-0.104	0.776*	1						
Fsize	0.476**	0.407*	-0.033	0.052	1					
Fprof	0.114*	0.188	0.048	0.018	0.178	1				
Inter	0.402*	0.17	0.655*	0.055	0.31*	0.475*	1			
Flever	0.024	0.093	-0.113	0.122	0.129	0.116	0.039	1		
Fage	0.263	0.124	-0.118	-0.107	0.253*	0.140*	0.066	-0.109	1	
InType	0.397**	0.285*	0.173	-0.029	0.137	0.192	0.054	0.066	0.004	1

* Significant at 5%.

** Significant at 1%.

Source: Authors' calculations.

5.3. Regression results

The OLS regression analysis examined the relationship between the extent of CSD and various corporate governance attributes and company characteristics. The model yielded statistically significant results (F-statistic = 7.25, p = 0), with an adjusted R-squared of 0.412, indicating that the independent variables and control variables collectively explain 41.2% of the variance in CSD.

Board size demonstrated a negative and statistically significant association with CSD extent ($p < 0.05$), suggesting that companies with larger boards tend to disclose less corporate social information, contrary to the initial hypothesis. This finding contradicts arguments posited that larger boards enhance monitoring and resource provision benefits. However, it aligns with a previous study by Ezzeddine et al. (2020), which also found an inverse association between board size and CSD levels. Furthermore, this result supports the postulates of agency theory and the conclusions drawn by scholars like Jensen (1993) and Cheng and Courtenay (2006) that smaller board sizes can enhance effectiveness, decision-making, oversight, and, consequently, CSD.

Both board independence ($p = 0.426$) and audit committee independence ($p = 0.605$) did not exhibit statistically significant relationships with CSD extent, thereby rejecting the second and third hypotheses. However, these results align with prior evidence from Alotaibi and Hussainey (2016) and Habbash (2016), who found no significant correlation between board independence and CSD in Saudi companies. Similarly, Aburaya (2012) showed an insignificant relationship between audit committee characteristics and environmental disclosure levels among UK companies. The non-significant results question whether directors classified as "independent" are truly detached from the company or instead represent "grey" directors with indirect interests aligned with the company. Without stringent regulations defining independence criteria, so-called "independent" directors may lack the objectivity to promote greater CSR transparency effectively.

Company size exhibited a positive and significant association with CSD levels ($p < 0.01$), confirming the fourth hypothesis and corroborating the findings of numerous previous studies (e.g., Macarulla, Talalweh, 2012; Alotaibi, Hussainey, 2016; Issa, 2017; etc.). This result supports the legitimacy theory's view that larger companies face greater

visibility and stakeholder pressures, incentivizing them to be more transparent about their social and environmental impacts.

Company profitability demonstrated a positive and statistically significant association with CSD extent ($p < 0.05$), confirming the fifth hypothesis, and supporting the legitimacy theory arguments that more profitable companies provide more CSD to gain legitimacy (Reverte, 2009). This finding aligns with previous studies by Macarulla and Talalweh (2012), Razak (2015), and Issa (2017).

Internationalization also showed a positive and significant association with CSD levels ($p < 0.05$), supporting the sixth hypothesis and aligning with legitimacy theory arguments that companies engaging in international operations increase disclosures to gain legitimacy across different operating contexts (Chapple, Moon, 2005). This finding is consistent with the results of Dyduch and Krasodomska (2017).

Regarding control variables, industry membership ($p < 0.01$) had a positive, and significant relationship with CSD extent. This implies that companies in manufacturing industries tend to disclose more CSD, confirming prior evidence from Ho and Taylor (2007) and Habbash (2016).

Company leverage was not significantly related to CSD levels ($p = 0.502$), potentially because creditors focus more on financial risk than CSR practices when assessing companies. This finding is consistent with prior studies by Razak (2015) and Abdulhaq and Muhamed (2015). Moreover, company age also did not have a statistically significant association with CSD extent ($p = 0.078$). This may be because organizational tenure or longevity does not necessarily translate into more extensive CSD practices among Saudi companies. Both younger and older companies could face similar internal and external pressures to be transparent about their social and environmental impacts, irrespective of how long they have been established. This finding is consistent with prior studies by Issa (2017) and Boshnak (2022).

Table 5. Regression results

	Unstandardized Coefficients		**T**	**Sig.**	**Collinearity**	
	B	**Standard Error**			**Tolerance**	**VIF**
Intercept	-0.182	0.021	-0.605	0.153		
Bsize	-0.118	0.045	-3.480	0.018	0.853	1.173
Bind	0.036	0.087	1.482	0.426	0.876	1.142
ACind	0.043	0.061	1.514	0.605	0.817	1.224
Fsize	0.072	0.018	2.877	0.000	0.696	1.438
Fprof	0.002	0.010	1.234	0.015	0.729	1.372
Inter	0.008	0.002	3.617	0.032	0.652	1.533
Flever	0.081	0.003	0.674	0.502	0.747	1.352
Fage	0.032	0.018	1.776	0.078	0.751	1.412
InType	0.114	0.036	3.131	0.002	0.921	1.085
Adj. R-Squared	0.412					
F-value	7.25					
Sig.	0.000					

Source: Authors' calculations.

5.4. Robustness test

There exists a potential temporal mismatch between the explanatory factors influencing CSD and the actual disclosure practices adopted by companies (Li et al., 2022). This discord arises due to the inherent nature of CSD, which often pertain to past social and environmental activities, contrasting with the forward-looking orientation of strategic planning processes (Liu, Anbumozhi, 2009). To address this potential timing discrepancy and validate the robustness of the findings, a lagged regression model was employed, following the work of Liu and Anbumozhi (2009). In this approach, the explanatory variables were lagged by one year (t-1 values) to assess whether they better elucidate the social disclosures made in the subsequent year.

The lagged model incorporated company size, company profitability and company leverage as the lagged variables, while the remaining factors were not lagged, as they exhibited minimal year-to-year fluctuations. The results of the lagged model (Table 6) remained largely concordant with the main results (Table 5). The independent variables board size ($p < 0.05$), company size ($p < 0.01$), company profitability ($p < 5\%$), internationalization ($p < 0.05$), and industry type ($p < 0.01$) maintained a significant association with CSD practices. Conversely, board independence ($p > 5\%$), audit committee independence ($p > 5\%$), company leverage ($p > 5\%$), and company age ($p > 5\%$) persisted in exhibiting no statistically significant relationship.

Therefore, the lag time analysis substantiates the robustness of the original findings, despite the potential timing mismatch between the explanatory variables and social disclosure practices. The consistent results obtained from the lagged model bolster the credibility and reliability of the study's conclusions.

Table 6. Lagged regression results

	Unstandardized Coefficients		T	Sig.	Collinearity	
	B	Standard Error			Tolerance	VIF
Intercept	-0.793	0.011	-1.169	0.247		
Bsize	-0.12	0.044	-3.673	0.032	0.856	1.169
Bind	0.425	0.079	1.571	0.05	0.831	1.203
ACind	0.984	0.063	1.728	0.086	0.931	1.074
Fsize	0.003	0.018	2.856	0.000	0.480	2.085
Fprof	0.307	0.007	-0.075	0.021	0.622	1.609
Inter	0.02	0.001	3.631	0.014	0.577	1.734
Flever	4.263	0.006	0.206	0.117	0.618	1.589
Fage	0.196	0.003	1.586	0.078	0.601	1.604
InType	0.112	0.037	2.938	0.004	0.921	1.085
Adj. R-Squared	0.416					
F-value	7.428					
Sig.	0.000					

Source: Authors' calculations.

6. CONCLUSION

This study contributes to the growing body of literature examining the determinants of CSD practices by investigating various corporate governance mechanisms and company characteristics' impact on CSD levels among listed companies in Saudi Arabia. By

leveraging a comprehensive dataset spanning 435 firm-year observations from 2015 to 2019, this research provides robust empirical insights into the factors shaping CSD in the Saudi Arabian context.

The findings reveal a significant negative association between board size and the extent of CSD, contradicting the notion that larger boards enhance monitoring and disclosure practices. This result aligns with agency theory perspectives, suggesting that smaller boards may exhibit greater efficacy in decision-making and oversight, consequently promoting more extensive CSD. Conversely, the non-significant results for board and audit committee independence question whether directors classified as "independent" truly lack ties to the company or instead represent "grey" directors with indirect interests aligned with the company. Without stringent regulations defining independence criteria, so-called "independent" directors may lack the objectivity to promote greater CSR transparency effectively.

Consistent with the expectations of legitimacy theory, the results indicate that larger companies and those with higher profitability tend to disclose more social information, potentially due to increased visibility, stakeholder pressures, and the need to maintain legitimacy. Furthermore, the study finds that companies engaged in international operations exhibit higher levels of CSD, corroborating the notion that such companies face heightened scrutiny across diverse operating contexts, incentivizing them to be more proactive in disclosing their social impacts.

The control variables reveal that companies in manufacturing industries tend to disclose more CSD, while company leverage and company age do not exhibit significant associations with disclosure levels. These findings contribute to the ongoing discourse through the presentation of empirical evidence from the Saudi Arabian context, where CSD practices are still in their nascent stages.

Despite the valuable insights generated, the use of an unweighted disclosure index may not fully capture the relative importance or depth of specific CSD items. Furthermore, the study's focus on annual reports as the primary data source may overlook other communication channels employed by companies for CSD. Future research could consider incorporating weighted disclosure indices and examining multiple disclosure channels to gain a more comprehensive understanding of CSD practices.

Additionally, as the concept of CSD continues its development, it would be valuable to explore the effects of newly emerging factors, such as sustainability governance mechanisms, stakeholder engagement practices, and the role of sustainability reporting frameworks, on CSD. Exploring these aspects could provide a more holistic perspective on the drivers and dynamics shaping CSD practices in Saudi Arabia and other contexts.

The findings offer valuable insights for policymakers, regulators, and corporate decision-makers alike; highlighting potential areas for enhancing transparency, accountability, and sustainable business practices within the Kingdom's rapidly evolving corporate landscape.

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