

Power Distance and Sustainable Development Goals Disclosure: Evidence from Europe

Raed Abdelhaq^{1,*}, Muiz Abu Alia^{1,2}, Abdalnaser Ibrahim Nour^{1,3} & Aladdin Dwekat^{1,4}

(Type: Full Article). Received: 14th Aug. 2025, Accepted: 26th Sep. 2025, Published: xxxx. DOI: [xxxx](#)

Accepted Manuscript, In Press

Abstract: Purpose: This research investigates the impact of power distance score on Sustainable development goals (SDG) disclosure. **Methodology:** To achieve the research objectives, panel data using 4,644 firm-year observations across 21 European countries between 2019 and 2024 were used. Moreover, the robust fixed effect regression was used to test the research hypothesis. **Finding:** The research finding show that the power distance score is negatively associated with the SDGs disclosure, indicating that in societies where power is distributed unequally and hierarchical structures are more accepted, companies tend to be less transparent in their SDG reporting. **Recommendations:** The research recommends that policy makers in high power distance societies increase regulation enforcement and empower stakeholders. At the same time, companies ought to adopt changes in governance, especially the creation of CSR committees and participatory decision-making procedures, to reduce cultural barriers and enhance SDG disclosure. **Keywords:** Power Distance, Sustainability, SDGs, culture, Europe.

المسافة السلطوية والإفصاح عن أهداف التنمية المستدامة: دليل من أوروبا

رائد عبد الحق^{1,*}، ومعز أبو عليا^{2,1}، وعبد الناصر نور^{3,1}، وعلاء الدين دويكات^{4,1}
تاريخ التسليم: (2025/8/14)، تاريخ القبول: (2025/9/26)، تاريخ النشر: xxxx

الملخص: الهدف: يستهدف هذا البحث تحليل أثر درجة المسافة السلطوية على مستوى الإفصاح عن أهداف التنمية المستدامة (SDGs) في السياق الأوروبي. **المنهجية:** اعتمدت الدراسة على بيانات مقطعية زمنية تضم 4,644 مشاهدة سنوية لشركات من 21 دولة أوروبية خلال الفترة 2019–2024، باستخدام أسلوب الانحدار الثابت القوي (Robust Fixed Effect Regression) لاختبار الفرضيات. **النتائج:** تشير النتائج إلى وجود علاقة سلبية ذات دلالة إحصائية بين درجة المسافة السلطوية ومستوى الإفصاح عن أهداف التنمية المستدامة، ما يعكس أن المجتمعات التي تتسم بقبول أكبر للهياكل الهرمية وعدم المساواة في توزيع السلطة تميل فيها الشركات إلى تقليل الشفافية في تقارير الاستدامة. **التوصيات:** توصي الدراسة صانعي السياسات في الدول ذات المسافة السلطوية المرتفعة بتعزيز إنفاذ اللوائح وتمكين أصحاب المصلحة، بينما يُستحسن أن تعتمد الشركات إصلاحات حوكمية مثل إنشاء لجان للمسؤولية الاجتماعية للشركات وتبني آليات صنع قرار تشاركية، بما يساهم في تخفيف القيود الثقافية وتعزيز الإفصاح عن أهداف التنمية المستدامة. **الكلمات المفتاحية:** المسافة السلطوية، الاستدامة، أهداف التنمية المستدامة، الثقافة، أوروبا.

¹ Accounting department, Faculty of Business and Communication, An-Najah National University, Nablus, Palestine

* Corresponding author email: raed.abdelhaq@najah.edu. Orcid: <https://orcid.org/0009-0008-5175-8213>

² E-mail: muizabualia@najah.edu. Orcid: <https://orcid.org/0000-0002-6056-0814>.

³ E-mail: a.nour@najah.edu. Orcid: <https://orcid.org/0000-0001-8525-9799>

⁴ E-mail: aladdin.dwekat@najah.edu. Orcid: <https://orcid.org/0000-0003-1282-5141>

¹ قسم المحاسبة، كلية الأعمال والاتصال، جامعة النجاح الوطنية، نابلس، فلسطين

* الباحث المراسل: raed.abdelhaq@najah.edu. Orcid: <https://orcid.org/0009-0008-5175-8213>

² البريد الإلكتروني: muizabualia@najah.edu. Orcid: <https://orcid.org/0000-0002-6056-0814>.

³ البريد الإلكتروني: a.nour@najah.edu. Orcid: <https://orcid.org/0000-0001-8525-9799>

⁴ البريد الإلكتروني: aladdin.dwekat@najah.edu. Orcid: <https://orcid.org/0000-0003-1282-5141>

Introduction

In an era of growing global interconnectedness and environmental awareness, corporate sustainability reporting has become a key mechanism for organizations to communicate their commitment to sustainable development (Dwekat and Abdelhaq 2025). The adoption of the United Nations Sustainable Development Goals (SDGs) in 2015 was a critical turning point in corporate sustainability reporting which forces companies to disclose how they enhance the achievement of worldwide environmental, social and economic agendas. The reform is essentially an immediate reaction to an increase in the demands of stakeholders, issues of organizational legitimacy, and regulatory power making transparency of SDG-related issues a strategic necessity of companies across the globe (Rosati & Faria 2019).

This study focuses on the European context, which is characterized by a strong regulatory environment and an institutional infrastructure that is well developed and which is particularly favourable to sustainability reporting. With the release of the 2017 Non-Financial Reporting Directive (NFRD) and the development of the same into the 2023 Corporate Sustainability Reporting Directive (CSRD), the European Union has created a binding regime of disclosure requirements on sustainability issues (Dwekat et al., 2025; Meqbel et al., 2025; European Commission, 2023). In such circumstances, businesses have to tread carefully in dealing with compliance obligations and at the same time consider the cultural and strategic antecedents of reporting (Helfaya et al., 2023; Zanellato et al., 2024). Despite this institutional convergence, Europe is culturally heterogeneous (Pucheta-Martinez et al., 2020) and this offers a unique context in which to examine how regulatory demands interact with cultural norms to shape corporate reporting behavior. Notably, previous studies

of cultural effects have frequently been limited by country- or industry-specific studies or by analyses using composite indices of cultural dimensions, and thus obscure the separate effects of individual factors such as power distance.

While the importance of sustainability reporting is widely recognized, the factors that affect the extent and quality of sustainability reporting continue to be explored by academic researchers. Prior research has mainly focused on firm-level factors such as size, profitability, and governance mechanisms (Abu Alia et al., 2024; Ching & Gerab, 2017), but relatively little research has been given to the importance of wider, national cultural dimensions (especially power distance) in affecting corporate SDG disclosure practices. Culture, as one of the defining factors of societal norms and organizational behavior, is expected to have significant impact on the way companies understand and respond to sustainability pressures (Sedita et al., 2022; Reverte, 2022). This is a research void particularly relevant to the European context, where despite institutional convergence in the European context, as a result of directives such as the NFRD and CSRD (European Commission, 2023), there is a high level of cultural heterogeneity across member states (Pucheta-Martinez et al., 2020). Existing research is often country- or industry-specific or based on composite indices of cultural dimensions and thus hides the specific impact of power distance. Consequently, the evidence is mixed: some researchers argue that power distance suppresses the influence of stakeholders and lowers transparency (Nicol, 2025), while others suggest that it can favor disclosure in hierarchical organizational contexts (Esposito et al., 2025). Against this backdrop, the current study aims to overcome this gap by exploring the relationship between power distance and SDG disclosure across a large sample of

European companies in the period 2019-2024 by using institutional theory, stakeholder theory, and legitimacy theory as the analytical frameworks (Freeman, 1984; DiMaggio & Powell, 1983; Suchman, 1995).

This research adds to the existing knowledge base in the field of sustainability disclosure in three important respects. First, it shifts the focus away not only in the general field of ESG disclosure but also in the narrower field of SDG reporting, thus offering a more detailed view of the influence of cultural aspects, in particular power distance, on the alignment of firms with global development objectives. Second, it complements the theoretical knowledge with the inclusion of institutional theory, stakeholder theory and legitimacy theory to explain how cultural norms interact with regulatory regimes to affect the communication strategy of corporate sustainability. Finally, it fills an empirical gap with evidence across countries on a heterogeneous sample of European countries, and it shows the effect of the cross-country cultural variation in a common institutional setting on the corporate disclosure behavior. These contributions combined do not just have a theoretical interest but also practical implications in the form of recommendations to policymakers, regulators, and corporate actors that wish to improve culturally sensitive sustainability governance.

Literature Review and Development of Hypothesis

The issue of national culture in determining the corporate sustainability disclosure particularly the Sustainable Development Goals (SDGs) is gaining momentum in the literature. The cultural values evidently influence the corporate visions of responsibility towards a sustainable development, as well as the modalities of communication that stakeholders favor (Herold, 2018; Luo & Tang, 2016). Cultural dimension of power distance

has received special attention in this literature since it implies the issue of transparency and the inclusion of stakeholders. The societies with high power distance possess very concentrated managerial power, high hierarchical norms and restricted flow of information (Hofstede, 1984). Such organizational structures may hinder the flow of the sustainability-related information and dampen the pressure of the external stakeholders to disclose full sustainability information. Conversely, in companies with a low power distance and a culture of egalitarianism and participatory processes, the views of stakeholders are more likely to be taken into account in their sustainability plans and more open and participatory disclosures will be published on the basis of the SDGs (Hofstede et al., 2010; Pucheta-Martinez et al., 2020). Therefore, power distance does not only affect the internal reporting decision but also acts as a moderating factor in how firms interpret and act to societal expectations with regard to sustainable development.

Theoretical Framework

The three theoretical lenses, i.e., institutional theory, stakeholder theory, and legitimacy theory, together constitute a complete framework for understanding the impact of cultural values, especially power distance, on the disclosure behavior regarding SDGs. From the perspective of institutional theory, the adoption of sustainability practices can be seen as a response to the coercive, normative and mimetic pressures in the institutional environment of organizations (DiMaggio & Powell, 1983; Scott, 1995). In situations where reporting on sustainability becomes institutionalized as a social expectation, even companies embedded in high power distance cultures may report their SDGs, not necessarily because they are convinced of their internal validity, but as a way to comply with the norms and preserve their legitimacy.

This implies that power distance does not necessarily impede disclosure, but instead shapes the process of internalizing institutional pressures by firms: in egalitarian environments disclosure can result from normative isomorphism and bottom-up societal pressures, whereas in hierarchical environments it is more likely to be the result of top-down coercive requirements from regulators or influential actors.

Stakeholder theory emphasizes the importance of power asymmetry in determining the extent to which various stakeholders are able to influence corporate decision-making (Freeman, 1984). In egalitarian environments, investors, employees, NGOs, civil society organizations, etc., gain the power to voice expectations and demand greater transparency to boost the breadth and depth of reporting on SDG-related topics (Abdelhaq et al., 2025b; Ching & Gerab, 2017). By contrast, in high power distance situations, stakeholder voices are often muted or subordinated to the interests of dominant elites or powerful shareholders. Therefore, SDG disclosure in those settings is likely to reflect the priorities of those at the top of the hierarchy rather than the broader social or environmental concerns raised by less powerful groups (Nicol, et al., 2025). Importantly, this does not imply that there is no disclosure, but that it is strategic and selective, with a focus on those narratives that reinforce the legitimacy of the powerful and minimise those issues which might empower marginalized stakeholders.

Finally, legitimacy theory provides a dynamic lens when it explains how companies use SDG disclosures as a way to maintain or repair their "social license to operate" (Suchman, 1995). In lower power distance cultures legitimacy is often built by showing accountability, inclusiveness and transparency as companies try to appeal to a broad range of expectations within the society (Akhter et al.,

2023). In contrast, in high power distance cultures, legitimacy is not necessarily derived from broad transparency but rather from meeting the expectations of influential actors, for example government authorities, dominant business groups or political elites. In these cases, disclosure practices are more symbolic, serving hierarchical demands for satisfaction or reinforcing parallelism to top-down sustainability agendas, rather than truly engaging with a variety of stakeholder concerns (Nicol, et al., 2025).

Taken together, these three theories highlight the need to recognize that a linear and uniform relationship between power distance and SDG disclosure does not exist. Instead, it is mediated through institutional pressures, the power dynamics between different stakeholders and through the mechanism that legitimacy is built in different cultural environments. High power distance may limit bottom up transparency but may also promote disclosure when powerful actors see sustainability as strategic in value. Conversely, low power distance gives more stakeholders the power to speak, resulting in more holistic and in-depth reporting.

Empirical Evidence and Hypothesis development

The empirical studies that were conducted to examine the relationship between power distance and sustainability disclosure have reported unclear results, thus demonstrating the theoretical complexity and situational factors that determine the connection. Initial sources supported the forecast that an increased power distance would complicate disclosure, as the control was centralized, and the impact of stakeholders was low (Nicol, et al., 2025). Latest studies however question this assumption. As an example, Esposito et al. (2025) illustrate that in some European banking scenarios, power distance, combined with other

aspects of culture, namely, uncertainty avoidance or masculinity could result in well-organized and institutionalized disclosure patterns. Helfaya et al. (2023) demonstrate that whereas individualism and femininity are strongly and consistently associated with higher ESG and SDG disclosure rates in European companies, power distance is rather vague and industry- and regulatory-dependent. Similarly, Pizzi et al. (2022) state that, despite the statistically significant relationship between most of the cultural dimensions and SDG disclosure, the influence of power distance is not statistically significant in their cross-country model; such results indicate that the regulatory strength or stakeholder activism could serve as moderating factors. Likewise, a recent study by Nicol, et al. (2025) shows that in low power distance countries organizations are more likely to resort to interactive ESG communications through social media, which confirms the connection between egalitarian cultures and organizational transparency. Together, the findings demonstrate that, in European settings, a low value of power distance is more supportive of holistic and stakeholder-based disclosure of SDGs. In line with this, the current research proposes the following hypothesis:

Hi: Firms located in countries with higher power distance scores are less likely to provide SDG disclosure.

Methodology

Sample and Data Collection

In this research, the researcher covers analysis of disclosure of Sustainable Development Goals (SDGs) with 4644 firm-year observations from non-financial firms in 21 European countries over 2019-2024. The starting dataset was from the Refinitiv Eikon database and it contained 30,912 firm-year observations. Financial institutions were excluded because they have different

regulatory and reporting requirements that are significantly different from those of non-financial firms and may skew cross-industry comparisons. Additionally, firm-year observations with missing or incomplete information were filtered out in order to ensure the data integrity, resulting in a final sample of 4,644 observations of ten major industries.

This sample offers a strong basis to investigate SDG disclosure across industries and jurisdictions in Europe, where there has been a strong regulatory engagement with corporate sustainability. The European Union's Non-Financial Reporting Directive (Directive 2014/95/EU) and its successor, the Corporate Sustainability Reporting Directive (CSRD), have revolutionized the reporting landscape by introducing binding disclosure requirements. These directives not only institutionalized sustainability reporting, they also provided powerful incentives for firms to make the SDGs a part of their reporting practices.

A quantitative research design is used, using panel data to examine the relationship between cultural dimensions (specifically, power distance) and SDG disclosure. The selected timeframe (2019-2024) reflects the period after the adoption of the SDGs in 2015 and the follow-up implementation of some key EU regulatory measures. This context is an ideal context to examine how institutional pressures and cultural heterogeneity combine to shape corporate sustainability reporting practices.

Measurement of Variables

The dependent variable (SDG Disclosure)

In accordance with the modern literature on SDG disclosure (Meqbel et al., 2025; Subramaniam et al., 2023; Rosati & Faria, 2019), SDG disclosure (SDGD) is regarded as a compliance ratio in terms of the 17 SDGs. The value of each goal is set to 1 in the case when a company reports on relevant initiatives or contributions to that particular SDG in a

reporting year and 0 otherwise. The total of these values is divided by 17 to give the degree of compliance and this gives a standardized measure of the extent to which firms are including the SDGs into their reporting practice.

$$\text{SDG DISC} = (\text{sum SDG } i) / 17)$$

The method yields a score of 0 to 1 with higher scores showing a more complete disclosure of SDGs in the 17 goals. The benefit of this method is that it gives a uniform measure that can be used to compare firms with each other and over time, which reflects the scope of the involvement of a company with the SDG framework.

The independent variable (Power Distance Score):

Power distance as envisioned by Hofstede et al. (2010) is a country-level cultural construct based on Hofstede originally aggregated national-level scores, and each firm is assigned the score of the country where it is headquartered. This operationalization is in line with the previous studies that consider national cultural norms as the factors influencing the behavior of firms irrespective of their multinational status (Pucheta-Martinez et al., 2020). In empirical terms, companies with higher power-distance scores tend to embrace the hierarchical order.

However, it is important to be aware of the limitations of using the cultural dimensions of Hofstede, in particular the power distance. Although Hofstede's model is still popular, critics have noted that the original data were gathered decades ago, and may not reflect modern cultural dynamics, given rapid socio-technological and political changes. Moreover, national level scores have a tendency to conceal the heterogeneity at intra-country and individual level of cultural values. The methodology has also been questioned: the fundamental data came largely from surveys

within IBM, raising concerns about generalisability of the methodology to different sectors or different populations. Recent research has also highlighted that Hofstede's dimensions ignore cultural change over time and usually simplify complexity in contemporary organizational contexts (e.g. Beugelsdijk et al., 2018; Zhou et al., 2020). Despite these criticisms, Hofstede's framework still represents a useful baseline measure for cross-cultural comparisons; and future research should consider more dynamic, granular, or multi-level cultural measures to complement Hofstede's.

Control Variables

The current research study includes a several control variables that match the ones used in previous studies of sustainability disclosure (Esposito et al., 2025; Meqbel et al., 2025; Nour et al., 2025; Nicol et al., 2025; Dwekat et al., 2025; Abdelhaq et al., 2024; Mardawi et al., 2024). Board independence (BIND) as the ratio between the independent directors on the board serves as the measure of stakeholder-oriented governance (Helfaya et al., 2023). The existence of corporate social responsibility committee (CSRC) is represented by a dummy variable that is 1 when the firm has a specific CSR committee and 0 otherwise, and thus determines the internal mechanisms of social-environmental oversight (Abu Alia et al., 2024; Nour et al 2022; Abdeljawad et al., 2025). The proxy of a firm size is the natural log of total assets (SIZE), and it is incorporated because it is an adequate measure of the organizational capacity and visibility, which may affect disclosure practices (Abdelhaq & Dwekat, 2024; Nour et al., 2024; Ching & Gerab, 2017). Firm leverage measures as a ratio of debt to equity (LEV) is employed as a metric of financial risk and the possibility of its influence on disclosure when it comes under pressure of creditors (Abdelhaq et al., 2025a; Nicol 2025). Profitability (ROA) is also reported as a

measure of financial performance using the return on assets and it is expected that organizations with better profitability would be more likely to provide information related to the SDGs (Salem et al., 2025; Esposito et al., 2025; Al-Koni et al., 2025). Lastly, the year fixed effects show the variation over time throughout the five-year research (Zanellato et al., 2024).

Estimation Model

The current study investigate the relationship between power distance score and the level of Sustainable Development Goals (SDG) disclosure. In order to address the issue of endogeneity and to account the unmeasurable heterogeneity at the firm level, the study employs fixed-effects panel regression. The standard errors are clustered at **Table (1): Descriptive Statistics.**

Variable	Obs	Mean	Std. Dev.	Min	Max
SDGD	4,644	.284	.308	0	1
PDI	4,644	43.722	17.484	11	100
BIND	4,644	53.813	26.627	0	100
CSRC	4,644	.622	.485	0	1
SIZE	4,644	13.933	2.298	8.428	19.984
LEV	4,644	.554	.251	.004	1.21
ROA	4,644	4.976	7.454	-13.17	20.09

The table 1 shows the descriptive statistics of the variables examined in the current study. The dependent variable, SDG Disclosure (SDGD), has a mean of 0.284, which means that the average disclosure of the European companies is about 28.4 percent of the potential information regarding SDG. The standard deviation of 0.308 indicates that there is a significant variation in the level of disclosure across firms where the disclosure is ranged between 0 and 1 which means that there is a firm that discloses no SDG information and there are those that disclose extensively. This average value can be compared with the statistics of other research on SDG disclosure in Europe, where the results are sometimes different due to the variation in the degree of adoption and depth according to the

the firm level to allow non-normal distribution, serial-correlation, and heteroscedasticity (Dwekat et al., 2022). The estimation model is as follows:

$$SDGDi,t = \alpha + \beta_1 PDI_{i,t} + \beta_2 BIND_{i,t} + \beta_3 CSRC_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 ROA_{i,t} + \beta_7 YEAR_DUMMI_{i,t} + \epsilon_{i,t}$$

Results and Discussion

Descriptive Statistics and Correlation Analysis

This section presents the descriptive statistics for all variables included in the analysis, followed by the correlation matrix. These preliminary analyses provide insights into the characteristics of the dataset and the relationships between the variables before proceeding to the main regression analysis.

methodology used and the sample profile. Indicatively, a study by Pizzi et al. (2022) on the European firms also points to the heterogeneity in SDG reporting, with the average disclosure levels indicating the infantile level of the comprehensive adoption of SDGs in corporate operations.

Power distance index (PDI) has a mean of 43.722 and a standard deviation of 17.484 with the lowest score of 11 and the highest score of 100. Such a broad distribution is reflected in the diverse European sample cultural backgrounds. The scale has countries like Austria and Germany that have low PDI scores and other countries like France and Belgium that have high scores of PDI based on the measures of Hofstede et al. (2010).

The descriptive analysis of Board Independence (BIND) in European setting depicts a mean of 53.813 %, which implies that more than half of the directors can be considered independent by definition. The fairly large standard deviation of 26.627 also shows that there is a significant degree of heterogeneity of BIND across firms. The result is in line with current governance rhetoric throughout Europe and beyond which emphasizes the role of the independent directors in improving oversight and accountability. Empirical studies of European corporate governance systems, especially Helfaya et al. (2023), report similar ranges and averages of the Board Independence variable (BIND), which can be explained by the diversity of the national governance codes and industry-specific standards that are in operation in the continent today.

Regarding the presence of a CSR Committee (CSRC), the data set has an average 0.622, which indicates that about 62.2 % of the sampled entities have such a body. This figure is important because it shows that the sustainability governance of large European enterprises is becoming institutionalized, which is supported by a convergence of growing regulatory and stakeholder pressures. In line with the current research on the European reporting practice, the establishment rate of such committees is quite high (Helfaya et al., 2023).

Firm Size (SIZE) is a natural log of total assets that has a mean of 13.933 and a standard deviation of 2.298 with a large range of 8.428

to 19.984. This kind of distribution attests to the incorporation of firms of different sizes. Such a trend is common to the research that involves large publicly traded organizations that have a domicile in the STOXX Europe 600, thus capturing a combination of large and very large companies in line with similar empirical studies on European reporting practices (Ching & Gerab, 2017).

Leverage (LEV) has a mean of 0.554, indicating that firms, on average, have a debt-to-equity ratio of 0.554. The standard deviation of 0.251 and a range from 0.004 to 1.21 reflect varying capital structures across the sample. This mean leverage ratio is within the typical range reported for non-financial firms in Europe, although specific industry variations can be substantial. Studies on financial characteristics of European firms often report similar leverage levels, reflecting common financing strategies and regulatory environments (Rosati & Faria, 2019).

Return on Assets (ROA), a measure of profitability, has a mean of 4.976 and a standard deviation of 7.454, with a broad range from -13.17 to 20.09, reflecting diverse financial performance among the sampled companies. This wide range, including negative values, is expected in a large sample of publicly traded companies over a multi-year period, reflecting varying economic conditions and firm-specific performance. The average ROA is comparable to profitability metrics observed in other large-scale studies of European corporate financial performance (Esposito et al., 2025).

Table (2): Matrix of Correlations.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) SDGD	1.000						
(2) PDI	-0.198	1.000					
(3) BIND	0.074	-0.199	1.000				
(4) CSRC	0.426	0.172	0.131	1.000			
(5) SIZE	0.422	0.223	0.115	0.484	1.000		
(6) LEV	0.157	0.114	-0.013	0.218	0.382	1.000	
(7) ROA	0.085	0.035	0.020	0.097	0.060	-0.212	1.000

The correlation matrix was examined to ensure the absence of multicollinearity among the independent variables in our regression models. As shown in Table 2, none of the correlation coefficients between independent variables exceeds the critical threshold of 0.7, which is commonly used to identify potential multicollinearity issues (Dwekat et al., 2025). Table 2 presents the Pearson correlation coefficients among the variables. Notably, SDGD shows a negative correlation with PDI (-0.198), which is support the hypothesized negative relationship. This initial finding suggests that firms in countries with higher power distance scores might exhibit lower SDGD, although this is a bivariate correlation and does not account for other factors. SDGD is positively correlated with BIND (0.074), CSRC (0.426), SIZE (0.422), LEV (0.157), and ROA (0.085). The strongest positive correlations with SDG disclosure are observed for CSRC and SIZE, indicating that firms with a CSR committee and larger firms tend to disclose more SDG information.

Regarding the independent variable, PDI shows a negative correlation with BIND (-0.199), suggesting that countries with higher power distance tend to have less independent boards. PDI also exhibits positive correlations with CSRC (0.172), SIZE (0.223), LEV (0.114), and ROA (0.035). These correlations provide preliminary insights into the relationships between variables, but further multivariate analysis is required to establish causal relationships and control for confounding factors.

Regression Analysis

This section presents the results of the panel data regression analysis, examining the impact of power distance on SDG disclosure while controlling for firm-level and governance variables. The analysis employs fixed effects to account for unobserved heterogeneity at the

year, country and industry levels, with robust standard errors clustered at the firm level.

Table (3): Regression Results.

VARIABLES	(1) SDGD
PDI	-0.00737*** (0.00150)
BIND	0.000121 (0.000132)
CSRC	0.134*** (0.00945)
SIZE	0.0524*** (0.00265)
LEV	-0.00519 (0.0192)
ROA	0.00125** (0.000511)
Year <i>fe</i>	Yes
Country <i>fe</i>	Yes
Industry <i>fe</i>	Yes
Constant	-1.014*** (0.0943)
Observations	4,644
Adj-R-squared	0.384

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3 presents the main regression results. The coefficient for Power Distance Index (PDI) is -0.007 and is statistically significant at the 0.01 level ($p<0.01$). This finding supports the research Hypothesis, which posited that firms located in countries with a higher power distance score would be less likely to disclose SDGs. The negative and significant coefficient indicates that as power distance increases, the level of SDG disclosure decreases. This suggests that in societies where power is distributed unequally and hierarchical structures are more accepted, companies tend to be less transparent in their SDG reporting. This aligns with the theoretical arguments that high power distance can hinder information flow and reduce external stakeholder influence on corporate decision-making regarding disclosure (Hofstede, 1984; Pucheta-Martinez et al., 2020). This results is consistent with the previous literature, for example, Helfaya et al. (2023) demonstrate that in low power distance settings, companies undertake more inclusive and transparent sustainability reporting, and

they explain this outcome by the fact that the culture in question favors egalitarianism, open communication, and sensitivity to the demands of various stakeholders. On the other hand, the high-power distance is associated with the centralized decision-making process and the lack of external accountability, which are, in turn, the factors that discourage voluntary and detailed disclosure. Similarly, Nicol et al. (2025) point out that companies in low power distance cultures are significantly more likely to use interactive communication mediums, including social media, to engage in ESG activities, which means that the culture of transparency is also part of the low power distance cultures. These interpretations overlap with the stakeholder and legitimacy theories that indicate the hypothesis that companies in more hierarchical societies are less pressured, or less inclined, to make broad-based disclosure unless pushed by authoritative organizations.

To appreciate the economic importance of this result, a coefficient of -0.007 indicates that for every one-point increase in a country's PDI score, the SDG disclosure score of companies in that country goes down by 0.007, holding everything else constant. Given the PDI range of 11 to 100 in our sample, a move from a low PDI country (e.g., 11) to a high PDI country (e.g., 100) may result in a significant decrease in SDG disclosure, which implies that cultural context plays a significant practical role in determining corporate transparency regarding sustainability. This underlines the fact that cultural factors are not just theoretical constructs, but have real impacts on corporate behavior and accountability.

The negative relationship between Power Distance Index (PDI) and the level of SDG disclosure, reported by the current research, can be explained by the lenses of Institutional, Stakeholder, and Legitimacy theories. In the perspective of Institutional Theory, organizations that are built within the high PDI

cultures tend to emphasize the compliance with the hierarchical authority and the dominating norms in the place of proactive transparency, which makes the SDG reporting extremely rare. Externally imposed regulation, whether the NFRD or the CSRD, increases the disclosure even though it is mediated by national cultural systems and less successful in high PDI contexts (DiMaggio & Powell, 1983; Scott, 1995). Stakeholder Theory has added another contribution: in high PDI societies, the power of decision-making is concentrated, the external stakeholders are given a weak voice, and as a result the pressures of transparency are weakened. In contrast, low PDI cultures are decentralized in their power structures, and they grant power to various stakeholders, who require the extensive disclosures of SDGs (Freeman, 1984; Pucheta-Martinez et al., 2020; Nicol et al., 2025). Moreover, Legitimacy Theory also holds the view that institutions in high PDI environments pursue institutional legitimacy through compliance with the demands of influential actors instead of the general societal standards, thus blighting their motivations to engage in thorough SDG disclosures unless they are expressly approved by those in authority (Suchman, 1995).

Among the control variables, Firm Size (SIZE) has a positive and highly significant coefficient (0.0524, $p < 0.01$), indicating that larger firms tend to provide more extensive SDG disclosures. This is consistent with prior literature suggesting that larger firms face greater stakeholder scrutiny and have more resources to engage in comprehensive reporting (Ching & Gerab, 2017). The presence of a CSR Committee (CSRC) also shows a positive and highly significant effect (0.134, $p < 0.01$) on SDG disclosure, this evidence confirms Helfaya et al. (2023), who underline the determinant role of governance variables in the construction of ESG and SDG disclosure. Regarding the performance at firm level, the

Return on Assets (ROA) has a positive and significant relationship (0.00125, $p < 0.05$), which implies that profitable companies use SDG reporting more actively. This observation is in line with Rosati and Faria (2019), who state that financially powerful organizations have the means and motives to invest and share their sustainability programs. On the other hand, the variables Board Independence (BIND) and Leverage (LEV) have no significant relationship with SDGs disclosure in the European context, most likely because of the high regulatory environment created by the application of directives such as the NFRD or CSRD, which sets a high level of reporting. Consequently, the marginal effect of these governance mechanisms is less in the spotlight as compared to cultural factors or firm-specific structures such as CSR committee (Subramaniam et al., 2023).

The adjusted R-squared value of 0.384 shows that the model can explain the variance in SDG disclosure by about 38.4 percent using the independent variables used in the model. The fixed effects of year, country and industry also contribute to the strength of these findings since they take into account the unobservable time-invariant, country-invariant and industry-invariant factors that may influence SDG disclosure.

Conclusion

This study contributes to the growing body of research examining the role of national culture in shaping corporate sustainability reporting, with a specific focus on how power distance influences the disclosure of Sustainable Development Goals (SDGs) among European firms. By employing a robust panel dataset drawn from European firms between 2019 and 2024, the research reveals a statistically significant negative association between Hofstede's Power Distance Index and the extent of SDG disclosure. These findings

suggest that firms operating in high power distance environments are generally less transparent in their sustainability communications, likely due to hierarchical decision-making structures and limited stakeholder engagement. The study thus advances the theoretical integration of institutional, stakeholder, and legitimacy theories by highlighting how cultural values intersect with regulatory frameworks to shape organizational behavior in the context of sustainability.

This research makes important theoretical and practical contributions. It contributes to the development of knowledge about cultural determinants of disclosure of SDGs, especially the role of power distance, which provides information on how societal norms affect corporate practices in sustainability. Practically, policy makers in high power distance countries should increase the enforcement of regulations and develop mechanisms that enable stakeholders to demand more transparency. Likewise, firms can overcome cultural constraints by adopting inclusive governance structures, such as dedicated CSR committees and participatory decision-making processes. By underscoring these dynamics, the study provides information to a wide range of stakeholders such as regulators, policy makers and corporate managers while covering a domain that remains comparatively unaddressed relative to factors at the firm level.

Despite its contributions, there are a number of limitations in this study that indicate the directions for future research. First, there may be dynamic, firm- or individual-level cultural nuances that Hofstede's national culture scores do not capture, and future research could utilize real-time surveys, social media data or other cultural dimensions and their interactions. Second, the SDG disclosure measure is more about breadth than quality, so qualitative

analyses or more sophisticated text-mining methods could reveal more. Third, potential endogeneity and reverse causality are not addressed and future studies could use instrumental variable methods, difference-in-differences or Granger causality tests. Finally, although the study is limited to European firms, analyses in other regions, sectors, or comparative cross-country contexts could illuminate the interplay between culture, regulation, and corporate behaviour in a global context to provide a more nuanced view of those factors that influence sustainability transparency.

Disclosure Statements

- **Ethical approval and consent to participate:** Approval was obtained from all authors.
- **Availability of Data and Materials:** The panel dataset used in this study is subject to restrictions and cannot be publicly shared due to data licensing agreements and confidentiality constraints imposed by the commercial data provider (Refinitiv Eikon). Access to the data may be granted upon reasonable request and with permission from the provider.
- **Author Contributions:** The lead author made the primary contribution, with substantial input from the co-authors.
- **Competing Interests:** The authors declare no conflicts of interest.
- **Funding:** This research received no external funding

Open Access

This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were

made. The images or other third-party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc/4.0/>

References

- Abdelhaq, R., & Dwekat, A. (2024). Board committees and voluntary disclosure: Evidence from Palestine. In A. M. A. Musleh Al-Sartawi & A. I. Nour (Eds.), *Artificial intelligence and economic sustainability in the era of Industrial Revolution 5.0* (Studies in Systems, Decision and Control, Vol. 528). Springer, Cham. https://doi.org/10.1007/978-3-031-56586-1_3
- Abdelhaq, R., Dwekat, A., & Atout, S., & Nour, A. I. (2024). The impact of board characteristics on the level of voluntary disclosure: Evidence from Palestinian listed companies. In A. M. A. Musleh Al-Sartawi & A. I. Nour (Eds.), *Artificial intelligence and economic sustainability in the era of Industrial Revolution 5.0* (Studies in Systems, Decision and Control, Vol. 528). Springer, Cham. https://doi.org/10.1007/978-3-031-56586-1_8
- Abdelhaq, R., Rabaia, D. J., Salem, A., & Jarar, A. (2025a). The evolution of accounting theories in digital era: Challenges and opportunities. In M. Alaali, A. M. A. Musleh Al-Sartawi, & A. S. Aydiner (Eds.), *The paradigm shift from a linear economy to a smart circular economy* (Studies in Systems, Decision and Control,

- Vol. 586). Springer, Cham.
https://doi.org/10.1007/978-3-031-87550-2_65
- Abdelhaq, R., Salem, A., Rabaia, D., Jardaneh, L., Nour, A. I., & Al-Sartawi, A. M. M. (2025b). Corporate governance and intellectual capital efficiency: Empirical evidence from Palestine. *International Journal of Intellectual Property Management*, 15(2), 180–203. <http://dx.doi.org/10.1504/IJIPM.2024.10064510>
 - Abdeljawad, I., Rabaia, D. J., Abdelhaq, R., & Salem, A. (2025). The association between corporate social responsibility disclosure and dividend policy: Insights from an emerging economy. *International Journal of Disclosure and Governance*, 1–19. <https://doi.org/10.1057/s41310-025-00305-3>
 - Abu Alia, M., Dwekat, A., Meqbel, R., Hannoun, T., Shakhshir, I., & Naser, A. (2024). Can effective board drive environmental innovation? The moderating power of CSR committee. *Journal of Financial Reporting and Accounting*. Advance online publication.
 - Akhter, F., Hossain, M. R., Elrehail, H., & Almomani, M. A. (2023). Environmental disclosures and corporate attributes, from the lens of legitimacy theory: A longitudinal analysis on a developing country. *European Journal of Management and Business Economics*, 32(2), 188–207. <https://doi.org/10.1108/EJMBE-01-2021-0008>
 - Al-Koni, S., Atout, S., Matar, W. A. R., Nour, A., & Daraghma, Z. (2025). Audit and risk committees effectiveness and its impact on financial performance of the banks listed on the Palestinian and Jordanian bourses. *An-Najah University Journal for Research - B (Humanities)*, 39(8). <https://doi.org/10.35552/0247.39.8.2425>
 - Beugelsdijk, S., & Welzel, C. (2018). Dimensions and dynamics of national culture: Synthesizing Hofstede with Inglehart. *Journal of Cross-Cultural Psychology*, 49(10), 1469–1505. <https://doi.org/10.1177/0022022118798505>
 - Ching, H. Y., & Gerab, F. (2017). Sustainability reports in Brazil through the lens of signaling, legitimacy and stakeholder theories. *Social Responsibility Journal*, 13(1), 95–110. <https://doi.org/10.1108/SRJ-10-2015-0147>
 - DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. <https://doi.org/10.2307/2095101>
 - Dwekat, A., & Abdelhaq, R. (2025). ESG controversies score and financial performance: The moderating role of the CSR committee. *An-Najah University Journal for Research – B (Humanities)*. In press.
 - Dwekat, A., Abu Alia, M., Abdeljawad, I., & Meqbel, R. (2025). Governing for the green: How European board attributes are driving environmental innovation. *Corporate Social Responsibility and Environmental Management*, 32(2), 2128–2146.
 - Dwekat, A., Meqbel, R., Seguí-Mas, E., & Tormo-Carbó, G. (2022). The role of the audit committee in enhancing the credibility of CSR disclosure: Evidence from STOXX Europe 600 members. *Business Ethics, the Environment & Responsibility*, 31(3), 718–740.
 - Esposito, P., Doronzo, E., Riso, V., & Martinelli, A. (2025). Sustainability in energy companies under the lens of cultural

- pressures: When do we talk of greenwashing? *Corporate Social Responsibility and Environmental Management*, 32(1), 78–92. <https://doi.org/10.1002/csr.3111>
- European Commission. (2023). *Corporate sustainability reporting*. <https://doi.org/10.2837/892542>
 - Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman. <https://doi.org/10.1017/CBO9781139192675>
 - Helfaya, A., Morris, R., & Aboud, A. (2023). Investigating the factors that determine the ESG disclosure practices in Europe. *Sustainability*, 15(6), 5508. <https://doi.org/10.3390/su15065508>
 - Herold, D. M. (2018). Demystifying the link between institutional theory and stakeholder theory in sustainability reporting. *Economics, Management and Sustainability*, 3(2), 6–19. <https://doi.org/10.14254/jems.2018.3-2.1>
 - Hofstede, G. (1984). *Culture's consequences: International differences in work-related values*. Sage Publications. <https://doi.org/10.4135/9781483398273>
 - Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations* (2nd ed.). Sage Publications. <https://doi.org/10.4135/9781452231297>
 - Hofstede, G., Hofstede, G. J., & Minkov, M. (2010). *Cultures and organizations: Software of the mind* (3rd ed.). McGraw-Hill. <https://doi.org/10.1036/0071664181>
 - Luo, L., & Tang, Q. (2016). Determinants of the quality of corporate carbon management systems: An international study. *International Journal of Accounting*, 51(2), 275–305. <https://doi.org/10.1016/j.intacc.2016.04.007>
 - Mardawi, Z., Dwekat, A., Meqbel, R., & Carmona Ibáñez, P. (2024). Configurational analysis of corporate governance and corporate social responsibility reporting assurance: Understanding the role of board and CSR committee. *Meditari Accountancy Research*, 32(2), 512–542.
 - Martens, W., & Bui, C. N. M. (2023). An exploration of legitimacy theory in accounting literature. *Open Access Library Journal*, 10(1), 1–15. <https://doi.org/10.4236/oalib.1109626>
 - Meqbel, R., Dwekat, A., & Mardawi, Z. (2025). Ownership structure and sustainability: Insights into SDG disclosures in European firms. *Research Square*. <https://doi.org/10.21203/rs.3.rs-5907095/v1>
 - Nicolò, G., Bryl, L., & Ferullo, D. (2025). The impact of national cultural dimensions on corporate environmental, social and governance disclosure: Evidence from social media practices. *Business Strategy and the Environment*, 34(2), 1245–1263. <https://doi.org/10.1002/bse.4304>
 - Nour, A., Alia, M. A., & Balout, M. (2022). The impact of corporate social responsibility disclosure on the financial performance of banks listed on the PEX and the ASE. In A. M. A. Musleh Al-Sartawi (Ed.), *Artificial intelligence for sustainable finance and sustainable technology* (Lecture Notes in Networks and Systems, Vol. 238, pp. 42–54). Springer. https://doi.org/10.1007/978-3-030-93464-4_5
 - Nour, A. I., Ghassan Qarmash, S., Al-Koni, S., & Jamal Rabaia, D. (2024). The mediating role of sustainable growth rate on the association between CEO characteristics and share prices: Proof from Palestine. *Journal of the Knowledge Economy*, 1–24.
 - Nour, A. I., Ridi, N. A., & Yahya, A., & Jebreen, K. (2025). The impact of disclosing integrated reporting on the financial

- performance among European industrial companies listed on the European stock exchange for the period between 2010 and 2022. In M. Alaali, A. M. A. Musleh Al-Sartawi, & A. S. Aydiner (Eds.), *The paradigm shift from a linear economy to a smart circular economy* (Studies in Systems, Decision and Control, Vol. 586). Springer, Cham. https://doi.org/10.1007/978-3-031-87550-2_23
- Pizzi, S., Del Baldo, M., Caputo, F., & Venturelli, A. (2022). Voluntary disclosure of Sustainable Development Goals in mandatory non-financial reports: The moderating role of cultural dimension. *Journal of International Financial Management & Accounting*, 33(3), 412–470. <https://doi.org/10.1111/jifm.12139>
 - Pucheta-Martínez, M. C., Gallego-Álvarez, I., & Bel-Oms, I. (2020). Corporate environmental disclosure practices in different national contexts: The influence of cultural dimensions. *Organization & Environment*, 33(4), 569–593. <https://doi.org/10.1177/1086026619860263>
 - Reverte, C. (2022). The importance of institutional differences among countries in SDGs achievement: A cross-country empirical study. *Sustainable Development*, 30(4), 651–669. <https://doi.org/10.1002/sd.2354>
 - Rosati, F., & Faria, L. G. D. (2019). Business contribution to the Sustainable Development Agenda: Organizational factors related to early adoption of SDG reporting. *Corporate Social Responsibility and Environmental Management*, 26(3), 588–597. <https://doi.org/10.1002/csr.1705>
 - Salem, A. S., Jarrar, A., Abdelhaq, R., Al-Sartawi, A., & Nour, A. I. (2025). Unveiling the drivers of CSR disclosure in emerging economies: The role of boardrooms, firm characteristics and political stability in Palestine. *International Journal of Intellectual Property Management*. Advance online publication. <https://doi.org/10.21203/rs.3.rs-6666644/v1>
 - Scott, W. R. (1995). *Institutions and organizations: Ideas, interests and identities*. Sage Publications. <https://doi.org/10.4135/9781452243016>
 - Sedita, S. R., Blasi, S., & Yang, J. (2022). The cultural dimensions of sustainable development: A cross-country configurational analysis. *Sustainable Development*, 30(4), 740–758. <https://doi.org/10.1002/sd.2351>
 - Subramaniam, N., Akbar, S., Situ, H., Ji, S., & Parikh, N. (2023). Sustainable development goal reporting: Contrasting effects of institutional and organisational factors. *Journal of Cleaner Production*, 411, 137339. <https://doi.org/10.1016/j.jclepro.2023.137339>
 - Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review*, 20(3), 571–610. <https://doi.org/10.2307/258788>
 - Sustainable Development Solutions Network. (2025). *Sustainable development report 2025: Methods for constructing the SDG Index and Dashboards*. <https://doi.org/10.25546/102158>
 - Zanellato, G., Marin-Pantelescu, A., & Toma, S. G. (2024). European Sustainable Development Goals reporting: A qualitative comparative analysis on cultural impact. *Economic Cybernetics Studies & Research*, 58(3), 241–256. <https://doi.org/10.24818/ecsrac.2024.3.16>
 - Zhou, Y., & Kwon, J.-W. (2020). Overview of Hofstede-inspired research over the past 40 years: The network diversity perspective.

ACCEPTED