

Influence of board composition on the level of SDG reporting of Chilean listed companies

INFLUENCIA DE LA COMPOSICIÓN DEL DIRECTORIO EN EL NIVEL DE INFORMACIÓN DE LOS ODS DE EMPRESAS LISTADAS CHILENAS

Julio Hernández Pajares¹* **™** Universidad de Piura

María Cecilia Venegas Morales² ≥ □
Universidad de Piura

- * Autor corresponsal.
- 1 Área Académica Contabilidad y Auditoria, Facultad de Ciencias Económicas y Empresariales, Universidad de Piura, Calle Mártir José Olaya street 162, Miraflores, Lima. PERÚ.
- 2 Área Académica Contabilidad y Auditoria, Facultad de Ciencias Económicas y Empresariales, Universidad de Piura, Av. Ramón Mugica 131, Urb. San Eduardo, Piura, PERÚ.
- 3 Departamento de Administración y Auditoría, Facultad de Ciencias Empresariales, Universidad del Bío-Bío, Avda. Collao 1202, Concepción, CHILE.

Abstract

Purpose: To analyze the influence of board composition on the level of disclosure of the Sustainable Development Goals (SDGs) in listed Chilean companies, in order to identify preliminary patterns that improve understanding of the variables associated with this sustainability transparency.

Methodology: A quantitative approach was used, with a non-confirmatory explanatory scope aimed at identifying significant relationship patterns. The influence of board characteristics on SDG disclosure in companies' integrated reports was examined using an ordinary least squares (OLS) regression model.

Results: The size of the board and its proportion of women had a positive and significant influence on the level of SDG disclosure. According to legitimacy theory, belonging to sectors that are sensitive to sustainability and applying the GRI standard also had a significant influence on such disclosure.

Implications: The results indicate the importance of strengthening the role of regulatory bodies in implementing sustainability regulatory frameworks and promoting corporate governance policies that improve transparency with the SDGs.

Originality: Providing empirical evidence on the relationship between board composition and sustainability disclosure in the context of Chilean market regulation, contributing to the development of an emerging line of research in Latin America.

ARTICLE INFO

Received: 11 April 2025 Accepted: 22 October 2025

Keywords:

Sustainability performance Board gender diversity Corporate governance GRI Sustainability disclosure

Resumen

Objetivo: Analizar la influencia de la composición de directorio en el nivel de divulgación de los Objetivos de Desarrollo Sostenible (ODS) en empresas chilenas listadas, con el fin de identificar patrones preliminares que mejoren la comprensión de las variables asociadas con esta transparencia de sostenibilidad.

Metodología: Se empleó un enfoque cuantitativo, con un alcance explicativo no confirmatorio destinado a identificar patrones de relación significativos. Se examinó la influencia de las características del directorio en la divulgación de los ODS de los reportes integrados de las empresas, aplicando un modelo de regresión de mínimos cuadrados ordinarios (OLS).

Resultados: El tamaño del directorio y su proporción de mujeres influyeron positiva y significativamente con el nivel de divulgación de los ODS. De acuerdo con la teoría de la legitimidad, la pertenencia a sectores sensibles en sostenibilidad y la aplicación del estándar GRI también influyeron significativamente en dicha divulgación.

Implicancias: Los resultados indican la importancia de fortalecer el papel de los organismos reguladores en la implementación de marcos normativos de sostenibilidad y de fomentar políticas de gobierno corporativo que mejoren la transparencia con los ODS.

Originalidad: Proporcionar evidencia empírica sobre la relación entre la composición de directorio y la divulgación de sostenibilidad en el contexto de la regulación del mercado chileno, contribuyendo al desarrollo de una línea de investigación emergente en América Latina.

INFORMACIÓN ARTÍCULO

Recibido: 11 de Abril 2025 Aceptado: 22 de Octubre 2025

Palabras Claves:

Desempeño de sostenibilidad Diversidad de género en directorios Gobierno corporativo GRI

Divulgación de sostenibilidad

INTRODUCTION

There is a regulatory pressure to disseminate the Sustainable Development Goals (SDGs) and to align companies' strategies and operations in sustainability management and reporting, driven by the Global Reporting Initiative (GRI), the United Nations Global Compact, and the World Business Council for Sustainable Development (WBCSD), as outlined in the document SDG Compass (GRI et al., 2015), which has been considered in studies such as those by Pizzi et al. (2021) and Zampone et al. (2024). On the other hand, the development and influence of good corporate governance on sustainability reporting and the SDGs are relevant to achieving better accountability with stakeholders (Donner et al., 2024; Nicolo et al., 2024).

Some companies view the SDGs as opportunities to evidence sustainability performance through reports aligned with environmental, social, and governance (ESG) criteria, which enable investors to assess risks and opportunities. Sustainability performance reflects measurable results regarding ESG impacts, guided by standards like the Global Reporting Initiative (GRI), founded in 1997 by CERES and

UNEP, which facilitates comparable and verifiable disclosure of economic, social, and environmental impacts (Erin et al., 2022).

However, despite the extensive dissemination of the SDGs by companies in the stock markets, they have not yet integrated all SDGs dimensions into their strategic and operational objectives and corporate governance policies to enhance sustainability transparency for stakeholders and investors (Bose et al., 2024; Donner et al., 2024; García-Meca & Martínez-Ferrero, 2021).

Studies in developed economies indicate that companies are more committed to SDG disclosure under institutional, regulatory and governmental pressures, which has fostered learning and improvement in sustainability disclosure. Moreover, investors' assessment of sustainability and corporate governance performance influences the value of companies in the stock markets and thus demonstrates their high performance and differentiates them to investors and other stakeholders (Bose et al., 2024; Donner et al., 2024; García-Sánchez et al., 2022; Nicolo' et al., 2024).

In emerging economies, SDG disclosure in sustainability reports has improved, predominantly through voluntary reporting.

However, in contrast to developed countries, stronger institutional and regulatory measures are needed to integrate SDGs into business strategy and to mandate their disclosure (Borges et al., 2022). While voluntary disclosure was once preferred, new sustainability reporting standards incorporate SDGs. In high socioenvironmental impact industries, disclosure often serves to legitimize actions before stakeholders. Nonetheless, significant gaps persist in social performance data, particularly regarding poverty reduction, hunger, education, equality, and climate action (Erin et al., 2022; Gunawan et al., 2020; Gutiérrez-Ponce & Wibowo, 2023).

Research on SDG disclosure in Chile is justified within Latin America's emerging regulatory context., where sustainability reporting and corporate governance are still developing and require empirical investigation. Prior studies indicate that disclosures mainly address direct stakeholders, employees, customers, suppliers—yet call for robust board governance and regulatory frameworks aligned with international standards, including ESG criteria and global reporting regulations (Borges et al., 2022; Daniel-Vasconcelos et al., 2022; Pinheiro et al., 2024).

In Chile, sustainability reporting evolution has been shaped by mandatory regulations issued by the Financial Market Commission, notably General Regulation No. 461 (NCG No. 461), which requires listed companies to disclose sustainability information in accordance with ESG criteria. In 2024, General Regulation No. 519 (NCG No. 519) refined integrated reporting guidelines, aligning them with International Sustainability Standards Board (ISSB) standards that will become mandatory in 2026. Implementation of NCG No. 461 has enhanced the quality of corporate reporting and has facilitated the adoption of international standards, such as the GRI and industry-specific sustainability standards of the Sustainability Accounting Standards Board (SASB), now maintained by the International Sustainability Standards Board (ISSB) of the IFRS Foundation.

This research aims to contribute to the literature on the disclosure of the SDGs in Chile and Latin America. Listed companies in the region have made progress in sustainability disclosure, specifically regarding SDGs: responsible production and consumption, decent work,

and gender equality. However, improving the quality of this information requires institutional and regulatory impetus to ensure transparency (Borges et al., 2022; Morales-Parada et al., 2024). Despite this, the influence of corporate governance practices— board gender diversity sustainability committees—remains scarcely studied, pointing to the need for further research on governance and sustainable development (Daniel-Vasconcelos et al., 2022).

The study examines how board composition influences SDG information disclosure among Chilean listed companies, seeking to preliminary patterns that clarify the determinants of transparency in sustainability as an emerging field of enquiry. This study employs ordinary least squares (OLS) linear regression model using data from 81 Chilean firms that disclosed SDG information in their 2022 integrated reports. However, the study acknowledges methodological limitations, as it is not confirmatory, relying solely on data from the first year of NCG 461 implementation in Chile, marking the early stages of substantial SDG-related disclosures.

Results indicate that board size and female representation positively influenced SDG disclosure, supporting resource dependence theory by showing how board attributes can enhance sustainability performance (Hamad et al., 2024; Zampone et al., 2024). Firms in sustainability-sensitive sectors and GRI standards disclosed more, reflecting legitimacy motives (Pizzi et al., 2021). However, sustainability committees showed no significant impact, suggesting symbolic rather than substantive integration (Chams & García-Blandón, 2019).

THEORETICAL BACKGROUND

Legitimacy theory and SDG disclosure

This study is grounded in legitimacy theory, posits that companies disclose sustainability information to improve their image among stakeholders, without necessarily reflecting real changes in their performance. This perspective holds that organizations report information about their social and environmental performance to manage public perception and seek to align their actions with societal expectations, as a symbolic, superficial,

and reactive—rather than substantive—strategy of performance and sustainability reporting. Such disclosure practices aim to respond to stakeholder pressure and establish an implicit agreement with society, as indicated by studies in European markets (Donner et al., 2024; García-Meca & Martínez-Ferrero, 2021; Manes-Rossi & Nicolo, 2022).

The disclosure of the SDGs often acts as a legitimacy mechanism, emphasizing positive sustainability achievements without necessarily reflecting substantive managerial change. Such disclosures aim to justify environmentally and socially sensitive activities and promote effective governance for sustainable business practices (Nicolo et al., 2024; Hamad et al., 2024). However, scholars have critically noted that these practices may involve unreliable or exaggerated claims that undermine public trust—a practice known as greenwashing (Bernini & La Rosa, 2024). Consequently, SDGrelated disclosures can be seen as a strategic response molded by external pressures, institutional incentives, and contextual factors that influence the credibility of corporate sustainability communication.

Companies in European markets legitimize their contribution to the SDGs as a symbolic response to transparency, demonstrate reconciliation, and perception of more sustainable strategies, but not necessarily as fulfillment of a commitment to their stakeholders (Manes-Rossi & Nicolo, 2022; Silva, 2021). On the other hand, companies have shown a lack of knowledge of the SDGs and of the regulatory frameworks for their disclosure in the absence of binding regulations; they present selective and incomplete information on the SDGs and their targets as part of their strategic objectives and management practices, as evidenced in studies on emerging countries in Asia (Gutiérrez-Ponce & Wibowo, 2023; Weerasinghe et al., 2024).

In the Latin American context, studies found that the disclosure of SDGs promoted by corporate governance policies sought to build reputation and social legitimacy among stakeholders in industries with significant sustainable impacts (Borges et al., 2022; Daniel-Vasconcelos et al., 2022).

Board composition and sustainability disclosure

The influence of board composition specifically board size, independence, and female representation - on SDG disclosure is crucial to sustainability performance within strategic objectives, as it can expand companies' access to strategic resources. Thus, diverse and independent boards have provided greater information, opinions, knowledge, and strategic skills that were necessary for resource financing due to a better relationship with the external environment and stakeholders who provide key resources to enable sustainability performance, as explained by resource dependence theory, which supports the influence of board composition variables on sustainability disclosure (Al Lawati & Alshabibi, 2023; Pizzi et al., 2021; Zampone et al., 2024).

Board size is a key determinant of SDGrelated sustainability disclosure because it is an attribute that enhances the diversity of perspectives, knowledge, and skills needed to implement sustainable practices. Pinheiro et al. (2024) argue that larger boards facilitate better compliance with the 2030 Agenda by fostering a more conducive environment for strategic SDG management. Similarly, Bose et al. (2024) hold that larger board composition exerts greater pressure for voluntary sustainability disclosure enabling greater control and monitoring of the corporate policies. Sekarlangit & Wardhani (2021) and Hamad et al. (2024) emphasize that a robust board strengthens governance and reinforces the capacity to respond to the global sustainability and transparency challenges. Accordingly, we propose the first hypothesis:

H1: Board size positively and significantly influences the level of SDG disclosure.

Female representation on boards is considered a determinant of sustainability reporting. Gutiérrez-Ponce & Wibowo (2023) and Hamad et al. (2024) agree that female participation in leadership roles reinforces the achievement of the sustainability targets by increasing sensitivity to social and environmental issues. Furthermore, Quintero García et al. (2024), Sekarlangit & Wardhani (2021), and Zampone et al. (2024) indicate that boards with greater diversity have a

positive impact on the adoption of sustainability policies and the quality of proactive disclosure of progress toward the SDGs, and encourage more inclusive and environmentally responsible improving accountability, decisions, thus organizational legitimacy and long-term viability for companies, society, and the environment. Accordingly, we propose the second hypothesis:

H2: The percentage of women on boards positively and significantly influences the level of SDG disclosure.

Regarding the relationship between the presence of independent directors on boards and sustainability information, the resource dependence theory posits that external directors provide access to critical resources and enhance oversight functions. Bose et al. (2024) and Pizzi et al. (2021) found that the presence of independent directors strengthened the supervision of managerial decisions, ensuring greater commitment to environmental, social, and governance (ESG) accountability. Similarly, Hamad et al. (2023) and Al Lawati & Alshabibi (2023) reported that boards with greater independence reduced conflicts of interest, as independent members acted as impartial watchdogs promoting transparent practices and encouraged the adoption of policies aligned with the SDGs by prioritizing stakeholder interests and long-term sustainability. In this sense, Sekarlangit & Wardhani (2021) and Nicolò et al. (2024) concluded that board independence favored transparency in SDG disclosure, ensuring that the strategies were consistent with current social expectations. Accordingly, we propose the third hypothesis:

H3: The percentage of independent directors positively and significantly influences the level of SDG disclosure.

Corporate control variables

Research on the relationship between board composition and sustainability reporting includes corporate characteristics as control variables for a better analysis of the influence of corporate governance (Nicolo' et al., 2024). According to legitimacy theory, specific corporate aspects may

prompt companies to view their sustainability reporting as a means of legitimizing themselves with stakeholders. Thus, the larger companies align interests between managers and company objectives, improve their reputation, and legitimize themselves with information to their investors and stakeholders (Bose et al., 2024; Silva, 2021). Furthermore, prior literature indicates that more profitable companies can invest in sustainability performance and stronger accountability (Wahyuningrum et al., 2022; Pizzi et al., 2021).

Most studies on SDG disclosure find that sustainability-sensitive industries exhibit higher level of reporting to maintain and repair social legitimacy (Pizzi et al., 2021). Studies document this phenomenon in environmentally sensitive sectors, in line with the legitimacy theory, as firms in these sectors seek to anticipate and accommodate to the expectations of their environment since they are more exposed to social scrutiny in order to legitimize their operations with the stakeholders through a symbolic disclosure of SDGs (García-Meca & Martínez-Ferrero, 2021; Manes-Rossi & Nicolo, 2022).

Studies show that activities with the most significant environmental and social impact are the natural resource extraction industries such as energy, mining, and oil. These industries are more sensitive to stakeholder pressures and have a higher level of SDG reporting on environmental, community and employee performance (Galeazzo et al., 2024; Gunawan et al., 2020; Morales-Parada et al., 2024).

The relationship between the themes of the GRI framework on sustainability, performance, reporting and SDG disclosure is also crucial (García-Sánchez et al., 2022; Sekarlangit & Wardhani, 2021). Similarly, several studies highlight that firms' adoption of the GRI standards strengthens transparency and reliability of SDG disclosure (Erin et al., 2022; Pizzi et al., 2021).

The participation of "Big Four" audit firms also influences sustainability and SDG disclosure. External auditing, in accordance with international standards, significantly influences corporate transparency of both financial and nonfinancial information disclosure. It also enhances supervision and control mechanisms for the management of corporate information disclosed to shareholders and interest groups (Al Lawati & Alshabibi, 2023; Donner et al., 2024; Orazalin & Mahmood, 2020).

Lastly, sustainability committees are organizations established by the board of directors to oversee sustainability initiatives. Their goals are to evaluate non-financial incorporate risks. sustainability into strategic decision-making, and guarantee accountability for sustainability pledges (Hamad et al., 2024). A positive relationship exists between sustainability committees and corporate social performance, as they foster opportunities and achieve sustainability goals (Bose et al., 2024; Hamad et al., 2024). Their presence enhances transparency and stakeholder-oriented governance (Nicolo et al., 2024; Pinheiro et al., 2024; Zampone et al., 2024). However, Abdullah et al. (2024) and Chams & García-Blandón (2019) document that evidence on their impact remains inconclusive. Such committees may improve reputation or public image rather than substantively advancing sustainable performance.

METHODOLOGY

Design

A quantitative approach was employed, with an explanatory scope that was neither confirmatory nor predictive, intended to identify significant relationship patterns. We examined how board characteristics influence SDG disclosure. An ordinary least squares (OLS) linear regression model was used. The following control variables were included: company size, profitability, economic sector, application of GRI standards, existence of a sustainability committee, and type of auditing firm for companies listed on the Chilean stock market for the year 2022.

A multiple linear regression analysis using ordinary least squares (OLS) was conducted to identify significant relationships among variables, following methodologies applied in prior studies on SDG disclosure determinants in listed firms (Niccolò et al., 2024; Bose et al., 2024). This approach provides preliminary empirical evidence on potential causal patterns and improves one's knowledge of SDG disclosure determinants, particularly within the emerging Latin American context. The regression analysis adhered to classical linear model assumptions, ensuring the validity of the results through tests of statistical significance and coefficient consistency.

To this end, a content analysis of integrated reports and sustainability reports was carried out to obtain data on the structure of the boards of directors and the level of information on companies' contributions to the SDGs from reports published by the Financial Market Commission (CMF), the regulatory body for entities participating in the Chilean stock market.

The methodological design is not meant to build a predictive model or assert definitive causal relationships; it seeks to identify associative patterns among variables. In this sense, OLS regression is employed as a preliminary explanatory tool to examine relationships among variables in the sample. The analysis explores the direction, magnitude, and theoretical consistency of these relationships, grounded in prior literature. The model uses robust errors to address potential outliers and heteroscedasticity, ensuring greater reliability and validity of statistical inferences.

The regression model's validity tests were conducted, including correlation coefficient analysis and the F (ANOVA) test to measure the model's explanatory power; the correlation of independent variables and the VIF test for multicollinearity; the Ramsey Reset test to verify the absence of relevant variables; and the Durbin-Watson for residual autocorrelation.

Sample

The sample was selected from a total population of 359 CMF-listed companies for 2022 and was first narrowed to 147 companies that filed integrated reports and sustainability reports for that year. The sample excluded family allowance compensation entities, sports clubs and societies, schools, investment fund companies, and investment management companies, and considered only companies with economic and sustainability activities.

Finally, out of these 147 companies, those that reported SDG contributions were selected, narrowing down the sample to 81. The unique relevance of the year 2022 within the Chilean regulatory and reporting context justifies its selection. The CMF's norm NCG 461 went into effect this year. It set mandatory disclosure requirements based on ESG criteria. Consequently, 2022 represents the first period in which a significant number of listed companies published integrated reports that explicitly included information related to the SDGs. Thus, adopting a cross-sectional design for this year provides an appropriate baseline to examine early

patterns of SDG disclosure and the influence of board composition during the initial phase of ESG-oriented regulatory compliance.

Given the modest sample size, the analysis is exploratory rather than inferential. It does not seek to build a predictive model or establish definitive relationships. Instead, it identifies preliminary association patterns to guide future research with larger samples. The analysis addresses an emerging topic in Chilean companies in a context of regulatory requirements under NCG No. 461, which mandates ESG-aligned sustainability disclosure effective from 2022.

sample includes only companies disclosing SDG-related information in their reports. The study aims to identify factors disclosure levels. on the reasons for reporting rather than not reporting. This approach enables the analysis of board characteristics and patterns explaining differences in the intensity of SDG information, rather than the decision to engage in sustainability reporting.

Table 1 shows the details of the sample classified by business activity, with the most representative activities being industrial, services, and energy companies.

Table 1. Sample classified by business activity.

Sector	Frequency	Percentage
Industrial	21	26%
Other services	18	22%
Energy and Mining	16	20%
Financial	15	19%
Trade	6	7%
Utilities	5	6%
Total	81	100%

Source: own elaboration.

Variable measurement

Based on the proposed theoretical model, this study examines the influence of the board characteristics such as board size, percentage of female directors, and percentage of independent directors on the level of SDG contribution disclosure. Control variables are considered in the model, such as company size and profitability, type of business activity, application of GRI standards, type of audit firm, and presence of a sustainability committee. The regression model used in this study is as follows:

$$\begin{split} DS\ Index_{i,t} \ = \ \alpha + \beta_1 \text{Board Size}_{i,t} + \beta_2 \text{Percentage female directors}_{i,t} \\ + \ \beta_3 \text{Percentage independent directors}_{i,t} + \beta_4 \text{Size}_{i,t-1} + \beta_5 \text{Profitability}_{i,t-1} \\ + \ \beta_6 \text{Business Activity}_{i,t} + \beta_7 \text{GRI}_{i,t} + \beta_8 \text{Big Four}_{i,t} + \beta_9 \text{Committee}_{i,t} + \varepsilon_{i,t} \end{split}$$

Where i is company and t equal to 2022. A content analysis of the information disclosed in the integrated or sustainability reports was conducted to measure the dependent variable, the level of SDG contribution disclosure. This approach moves beyond simple compliance to assess the depth of reporting, aligned with the principles of the SDG Compass (GRI et al., 2015), which guides companies in aligning strategies with their contribution to the SDGs.

The resulting index captures the strategic integration of SDGs, following approaches

to quality SDG reporting (Pizzi et al., 2021; Sekarlangit & Wardhani, 2021). Measurement occurred in two stages: the first measured the level of disclosure of each SDG as the mean of incidence of information of the six categories, as shown in Table 2, criteria based on the SDG Compass (GRI et al., 2015). Second, two authors independently assessed the content of each category's compliance information, reaching a final consensus measurement aligned with the guide's criteria to ensure reliability and consistency in SDG disclosure evaluation.

Table 2. Criteria for measuring SDG compliance.

SDG compliance information	Measurement
General information on each SDG	Value $1 = SDG$ explicitly identified; $0 = absent$ or general mention.
Strategy for each SDG	Value $1 = SDG$ integrated in the business strategy; $0 = not$ mentioned.
Compliance objectives of each SDG	Value $1 =$ specific, quantified, time-bound SDG targets; $0 =$ none.
Progress and results for each SDG	Value $1 = \text{results}$ disclosed with metrics and comparisons with prior periods; $0 = \text{none}$.
Performance of each SDG	Value $1 =$ specific metrics are used to track progress against targets; $0 =$ none.
Relevance of the SDG to performance	Value 1 = if the disclosure relates to the company's performance; 0 = none.

Source: own elaboration.

Subsequently, the average value of incidences of disclosure of each SDG was calculated by dividing the sum of the measurement values by 5. Then, the overall average value of SDG disclosure was obtained by dividing the sum of the average value of incidences of each SDG by the number of the 17 goals using the following formula (Donner et al., 2024; Hamad et al., 2024).

ODS Index =
$$\frac{\sum_{i=1}^{17} ODSsi}{N}$$

Table 3 describes the independent and control variables that were employed in the regression model and lists the authors who used these variables in the studies.

Table 3. Description of independent and control variables.

Independent variables	Description	Citations		
Board size	Number of directors	Gutiérrez-Ponce & Wibowo (2023); Hamad et al. (2024)		
Percentage of women on boards	Number of women on boards divided by the total number of directors	Pinheiro et al. (2024); Zampone et al. (2024)		
Percentage of independent directors	Number of independent directors divided by the total number of directors	Bose et al. (2024); García-Sánchez et al. (2022); Pizzi et al. (2021).		
Control variables				
Size (Ln Assets)	Company size is measured using the natural logarithm of total assets from 2021, which corrects for heteroscedasticity.	García-Sánchez et al. (2022); Zampone et al. (2024)		
Profitability (ROA)	Return on assets for the year 2021(net income divided by total assets).	García-Sánchez et al. (2022); Wahyuningrum et al. (2022)		
Sensitive business activity	Dichotomous variable of two groups: sustainability sensitive (industrial, energy, water supply, mining, construction) with a value of 1 and non-sensitive (trade, financial, and other services) with a value of 0.	Galeazzo et al. (2024); Wahyun- ingrum et al. (2022)		
GRI standard	Dichotomous variable, with a value of 1 for companies that apply GRI standards and a value of 0 for those that do not.	Erin et al. (2022)		
Big Four	Dichotomous variable that measures with a value of 1 for companies externally audited by a "Big Four" audit firm and a value of 0 for other firms.	Al Lawati & Alshabibi, (2023); Orazalin & Mahmood, 2020		
Sustainability Committee	Dichotomous variable that assigns a value of 1 to companies with a sustainability committee and a value of 0 to those without one.	Bose et al. (2024); García-Sánchez et al. (2022); Pizzi et al. (2021).		

Source: own elaboration.

RESULTS

With respect to the level of SDG contribution disclosure in the reports, Figure 1 shows that the highest level of the information categories, with a mean value greater than 0.3, was found in SDG 8 on decent work that covers the sustainability performance with employees, and SDG 13 on climate action that covers the environmental performance of the companies to combat the effects of climate change. Other SDGs with a significant level of compliance (mean > 0.25) are SDG 4 (Quality Education), which addresses education activities with employees and community, and SDG 5 (Gender Equality). In addition, SDGs 11 and 12, related to the development of sustainable cities and to responsible production and consumption practices, also stand out as key areas of environmental performance.

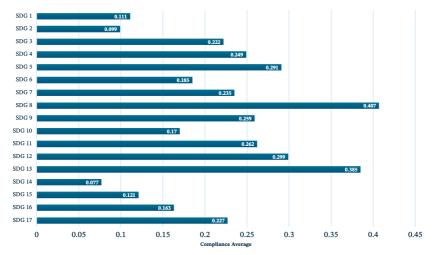


Figure 1. Level of SDG reporting. Source: Own elaboration.

Regarding strategic SDG alignment according to SDG Compass (GRI et al., 2015), Figure 2 shows that 77% of the companies recognize SDGs as critical and important to sustainability

performance. However, only 10% of company presidents address the SDGs achievements in their letter to shareholders.

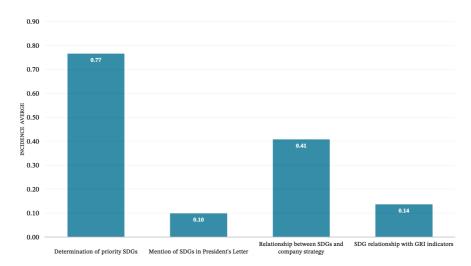


Figure 2. Mean of incidence of categories of SDG management approach. Source: Own elaboration.

Figure 3 shows the mean value of SDG disclosure by business activity. It is observed that the activities with greater environmental and social impact have a higher level of SDG disclosure, standing out the activities of utilities

of water supply, gas, and public transport, manufacturing activities such as agroindustry, food, cement, and activities of energy production and distribution.

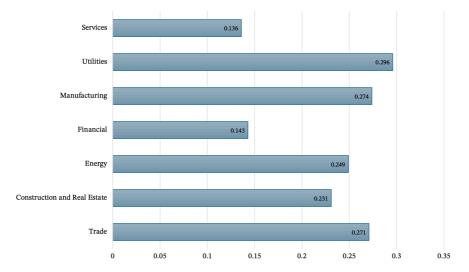


Figure 3. Mean of SDG reporting by business activity. Source: Own elaboration.

Table 4 shows the descriptive statistics of the variables in the regression model. First, the level of information on contributions to the 17 SDGs reaches an average of only 0.221. SDG disclosure studies in Latin America report an average compliance rate of 0.25, which is very similar to the mean obtained in this study. However, this result represents a low level of disclosure compared to global studies, which report averages of 0.61 (Nicolo' et al., 2024), 0.54 (Zampone et al., 2024), 0.50 for Asian countries (Sekarlangit & Wardhani, 2021), and 0.38 for

European countries (Pizzi et al., 2021).

The average board size is 7.64 directors, with high variability among firms. Female representation averages 0.239, and independent directors 0.286. Company size shows wide dispersion, while profitability averages 0.043. About 60% operate in sustainability-sensitive sectors, 71.6% apply GRI standards, 83.9% are audited by Big Four firms, and only 54% have sustainability committees.

Table 4. Descriptive statistics of variables.

Variables	Minimum	Maximum	Mean	Standard deviation
Average GDS reporting	0.024	0.706	0.221	0.144
Board size 2022	3	14	7.640	2.105
% of women on boards	0	0.800	0.239	0.187
% of independent directors	0	1	0.286	0.298
Ln Assets	14.550	24.880	21.12	1.955
ROA	-0.350	0.530	0.043	0.092
Sensitive activity	0	1	0.600	0.492
GRI standard	0	1	0.716	0.454
Big Four	0	1	0.839	0.369
Sustainability committee 2022	0	1	0.540	0.501

Source: Own elaboration.

Table 5 shows that there is no significant correlation between the variables, with coefficients greater than 0.8, indicating that there are no multicollinearity problems. It also shows that the level of SDG reporting significantly correlates with board size, company size, nature of the sustainability activities, and the application of GRI standards.

Table 5. Correlation of variables.

	SDG reporting	Board size	Female directors	Independent directors	Ln Assets	ROA	Activity	GRI	Big Four	Committee
SDG reporting	1									
Board size	0.246*	1								
Female directors	0.173	-0.201	1							
Independent directors	0.132	0.246*	0.127	1						
Ln Assets	0.219*	0.476**	-0.013	0.304**	1					
ROA	-0.085	-0.095	-0.090	0.051	-0.215	1				
Activity	0.348**	0.031	-0.084	0.149	0.130	-0.075	1			
GRI	0.250*	0.128	0.179	0.092	0.262*	-0.276*	-0.005	1		
Big Four	-0.012	0.407**	-0.025	-0.003	0.320**	-0.091	0.128	0.172	1	
Committee	0.068	0.033	0.067	0.101	0.113	-0.158	0.222*	0.192	0.139	1

Source: Own elaboration.

Table 6 presents the results of the regression analysis on the level of sustainability information. The model obtained an R² of 0.327 and an F-statistic of 3.832, with a significance value of less than 0.001, which supports its explanatory validity. The Durbin-Watson statistics was 1.93, indicating the absence of autocorrelation in the residuals. The Variance Inflation Factor (VIF) values are also close to 1, with a mean of 1.27 for the variables studied. This means that there is no multicollinearity among the independent variables, which was expected based on the correlation results in Table 5.

Table 6. Regression Results.

Coefficients	SDG Disclosure
Board size	0.0242***
	(0.0084)
% female directors	0.2180**
	(0.0903)
% independent directors	-0.0418
	(0.0526)
Big Four	-0.0975**
	(0.0435)
Ln assets	0.0048
	(0.0088)
GRI Standard	0.0693**
	(0.0339)
ROA	0.0778
	(0.163)
Sensible industry	0.1200***
	(0.0301)
Sustainability Committee	-0.0145
	(0.0296)
Constant	-0.1410
	(0.1670)
Observations	81
R^2	0.327

Notes: Standard errors in parentheses. * p < 0.10, *** p < 0.05, *** p < 0.01. Source: Own elaboration.

From a governance standpoint, the results indicate that board characteristics significantly influence SDG disclosure. Each additional board member increases disclosure by about 2.4%, while a 10% rise in female representation raises it by 2.2%, underscoring the practical impact of board size and gender diversity.

Conversely, firms audited by Big Four companies tend to disclose about 9.8% less SDG-related information, which may reflect a more conservative approach toward voluntary sustainability reporting. The adoption of GRI Standards increases disclosure levels by approximately 6.9%. Finally, firms operating in sustainability-sensitive industries exhibit approximately 12% greater SDG disclosure, suggesting that external legitimacy pressures and exposure to sustainability risks act as powerful incentives for more comprehensive reporting.

Concerning the influence of board composition on the level of SDG disclosure, only the size and presence of women on the board showed a significant association, not the presence of independent directors. The regression analysis revealed that board size had a positive and statistically significant influence on the level of SDG disclosure ($\beta = 0.0242$, p < 0.01), thereby supporting H1.

The percentage of women on boards had a positive and significant impact on the disclosure of SDGs ($\beta=0.2180,\,p<0.05$), confirming H2. In contrast, the percentage of independent directors showed a negative but statistically insignificant relationship with SDG disclosure ($\beta=-0.0418,\,p>0.10$), leading to the rejection of H3.

Regarding control variables, companies in sustainability-sensitive industries disclosed significantly more SDG-related information (β = 0.1200, p < 0.01). Similarly, the application of GRI standards was positively associated with SDG disclosure (β = 0.0693, p < 0.05), suggesting that prior reporting experience enhances transparency. In contrast, the presence of a sustainability committee showed no significant effect, indicating limited influence on disclosure. Overall, industry sensitivity and formal reporting frameworks emerge as key determinants of sustainability transparency.

The level of SDG disclosure does not significantly correlate with companies' profitability and

size. Larger, more profitable companies with greater resources and investment do not necessarily disclose more SDG information. Finally, the influence of auditing by a "Big Four" firm is significant but negative, meaning that companies audited by large firms do not necessarily disclose more information related to SDGs.

DISCUSSION

Results indicate that SDG-related disclosure concentrates on those linked to the direct impact of business activity, such as decent work, equality, responsible production and industry, and environmental impacts. However, there is limited information on other social SDGs, such as poverty, hunger, inequality, and biodiversity (Erin et al., 2022; Gunawan et al., 2020).

The limited relationship between the information and strategic objectives suggests company managers only consider disclosure of contributions to the SDGs as a way of legitimizing themselves with stakeholders, without considering them in their sustainability strategies (García-Meca & Martínez-Ferrero, 2021; Silva, 2021). Finally, firms with greater sustainability impact seek to legitimize their activities with their stakeholders in their SDG disclosure (Galeazzo et al., 2024; Gutiérrez-Ponce & Wibowo, 2023; Nicolo' et al., 2024).

Findings show that SDG disclosure by Chilean firms is largely symbolic, reflecting legitimacyseeking rather than genuine sustainability commitment. The weak influence sustainability committees and independent directors supports this view. SDG reporting thus maintains institutional legitimacy without strategic integration. García-Meca and Martínez-Ferrero (2021) found symbolic disclosure to protect legitimacy, while Nicolò et al. (2024) noted limited reflection of real performance. Similarly, Bernini and La Rosa (2024) warned of greenwashing practices emphasizing image over authentic value creation.

The results indicate a relationship between board composition and SDG disclosure, consistent with resource dependence theory. Larger boards, with a higher percentage of women, facilitate access to resources and information, improve their ability to make responsible decisions, and encourage more openness about sustainability information (Abdullah et al., 2024; Daniel-Vasconcelos et al., 2022). The positive influence of board size on SDG disclosure aligns with studies demonstrating that board members strengthen governance and increase pressure for more robust sustainability strategies, management practices, and communication (Bose et al., 2024; Hamad et al., 2024; Pinheiro et al., 2024; Zampone et al., 2024).

Evidence shows that greater gender diversity on boards positively influences sustainability policies and SDG disclosure, which is notable in Latin America, where women remain underrepresented in leadership roles (Quintero García et al., 2024; Hamad et al., 2024). This association reflects more inclusive and responsible decision-making, enhancing leadership, accountability, and progress toward social and environmental goals (Gutiérrez-Ponce & Wibowo, 2023; Zampone et al., 2024). In Chile, this result is particularly relevant, contrasting with findings from other emerging economies where women's board presence does not significantly affect sustainability disclosure (Pinheiro et al., 2024).

The number of independent directors is not linked to greater sustainability disclosure, possibly due to limited expertise or engagement within Chile's emerging non-financial reporting context (Zampone et al., 2024; Sekarlangit Wardhani, 2021). Their independence appears formal, emphasizing compliance over strategic oversight. Concentrated ownership may further limit their influence, suggesting underutilization of this governance resource. Independent directors may prioritize legitimacy reputation protection rather sustainability advancement (Abdullah et al., 2024). Effective stakeholder responsiveness may rely instead on other governance mechanisms, such as sustainability committees or corporate communication departments (Bose et al., 2024; Pizzi et al., 2021; Sekarlangit & Wardhani, 2021).

Regarding control variables, industrial activity significantly influences sustainability disclosure. Firms in sectors with higher environmental and social impacts—such as mining, industry, and energy-tend to report more on sustainability and SDGs to enhance legitimacy and reputation among stakeholders (Galeazzo et al., 2024; Gunawan et al., 2020;

Hamad et al., 2024; Nicolò et al., 2024; Silva, 2021). This pattern aligns with prior Chilean studies (ESE-PWC, 2022; Morales-Parada et al., 2024), influenced by international standards and CMF regulation. Moreover, prior experience in voluntary reporting and applying GRI standards shows a positive, significant effect on SDG disclosure, consistent with evidence highlighting the GRI framework's contribution improving sustainability management, performance, and information quality in listed firms (García-Sánchez et al., 2022; Pizzi et al., 2021).

The influence of a sustainability committee and the disclosure of SDGs does not have a positive or significant impact on the results. However, it is important to note that only 36 companies have such a committee, and there is no legal obligation to do so. This result differs from those obtained by Zampone et al. (2022) and Hamad et al. (2022), reflecting that sustainability reports do not consider SDGs as part of the strategic objectives and sustainability management led by sustainability committees (Sekarlangit & Wardhani, 2021) or that their presence is due to a search for legitimacy or improvement of the company's reputation rather than a commitment to and performance of sustainability (Abdullah et al., 2024; Chams & García-Blandón, 2019).

The negative association between Big Four auditors and SDG disclosure suggests that, in Chile, external audits remain confined to financial information without encouraging broader sustainability reporting. This contrasts with Al Lawati & Alshabibi (2023) and Orazalin & Mahmood (2020), who found positive links between Big Four audits and disclosure quality. Strengthening assurance standards, such as IAASB's forthcoming ISSA 5000 (2025), is crucial to enhance the accuracy and transparency of sustainability information (Abdullah et al., 2024). The negative association between Big Four auditors and SDG disclosure reflects their conservative, risk-averse approach emphasizing reliability and compliance (Martínez-Ferrero al., 2018). This orientation promotes standardized, controlled reporting and limits qualitative or unverifiable information. In emerging markets, institutional and legitimacy pressures often lead to symbolic rather than substantive or difficult-to-verify disclosures (García-Meca & Martínez-Ferrero, 2021).

Despite advances in corporate governance policies among Chilean companies, the initial development of SDG information in reports can be explained by the fact that the Chilean securities market regulator has only recently begun a phase of standardizing integrated reports. Standard NCG No. 461 and its amendment with NCG No. 519 comprehensively address sustainability reporting aspects; however, their influence is not yet decisive in SDG information due to a lack of integration into companies' strategic objectives for quality and reliable reporting (Gutiérrez-Ponce & Wibowo, 2023).

The results may indicate that sustainability reports are more a response to mandatory compliance than voluntary action, due to the limited experience of board members in EGS reporting or initiatives in the country and, specifically, a lack of understanding and knowledge of all the SDGs and their targets and the absence of their integration into objectives and monitoring with appropriate metrics, according to regulatory frameworks (Borges et al., 2022; ESE-PWC, 2022; Gutiérrez-Ponce & Wibowo, 2023; Weerasinghe et al., 2024).

In Chile, improving corporate transparency and coordination between government and financial actors remains necessary. Strengthening governance, participation, and gender aspects is key to enhancing sustainability and integrity. Regulatory policies should mandate an active role for sustainability committees in defining strategies and effectively monitoring SDG implementation.

CONCLUSIONS

The study reveals that companies listed in Chile disclose contributions to SDGs related to decent work, quality education, gender equality, and climate change. However, information related to strategies, goals, and progress toward the 17 SDGs remains limited and concentrated in companies with a greater impact on sustainability. This finding reveals that SDGs are still only partially integrated into corporate reports and that the focus is mainly placed on legitimacy. Although NCG Standard No. 461 has promoted their incorporation, questions remain about the real impact of these practices

on business value creation and their effective contribution to sustainable development in the coming years (García-Meca & Martínez-Ferrero, 2021).

The findings also suggest that the composition of the board of directors, in terms of its size and gender diversity, is related to SDG reporting, reflecting an improvement in corporate governance and transparency policies driven by Chilean market regulation, which is in line with the legal reforms implemented by the Chilean government. However, the non-financial transparency of Chilean companies still needs to improve in terms of relevant environmental and, above all, social contributions in the current context of demands for greater equity and social justice (Morales-Parada et al., 2024).

This study has methodological limitations. It is non-confirmatory, using only 2022 data, the first year of NCG 461 implementation in Chile and among the earliest with significant SDG disclosure. The analysis seeks to identify patterns of causality, and the small sample limits generalization. Disclosure measurement captures compliance level, not information quality. Future studies should adopt longitudinal designs with larger samples to analyze the evolution and maturity of sustainability disclosure over time.

Although this study examines the connection between board composition and contributions disclosure, the results are not generalizable to a broader population. It calls for further research on Chilean companies implementing NCG No. 461 and NCG No. 519, which consider international standards in sustainability reporting. An expanded sample is necessary for robust results and to analyze the evolution of SDG disclosure and the impact of public policies on corporate sustainability transparency. Additionally, further research could explore the determinants of SDG disclosure and reasons for non-compliance among listed companies.

The results are relevant for enhancing public policies and corporate governance, promoting gender diversity, ensuring board independence, and improving the participation of sustainability committees in raising awareness and expertise regarding contributions to the SDGs. Additionally, these findings aim to

support higher quality disclosures that enhance performance and transparency of contributions to sustainable development in Chile and Latin America.

Conflict of interest declaration:

The authors declare that they have no conflicts of interest.

Funding:

The authors did not receive funding to conduct this research.

Use of Artificial Intelligence (AI):

The authors declare that they did not use AI assistance in the research process or the writing of this document.

Authors' contributions:

Conceptualization and Data Curation: JHP and CVM; Formal Analysis, Research, and Methodology: All; Project Management: JHP and CVM; Software: JHP; Supervision: JHP and CVM; Validation and Visualization: All; Writing - Original Draft: JHP and CVM; Writing - Review and Editing: All.

REFERENCES

- Abdullah, A., Yamak, S., Korzhenitskaya, A., Rahimi, R., & McClellan, J. (2024). Sustainable development: The role of sustainability committees in achieving ESG targets. Business Strategy and the Environment, 33 (3), 2250-2268. https://doi. org/10.1002/bse.3596
- Al Lawati, H., & Alshabibi, B. (2023). Does board structure drive sustainable development goals disclosure? Evidence from an emerging market. Journal of Governance and Regulation, 12 (2), 166-175. https://doi. org/10.22495/jgrv12i2art1544

- Bernini, F., & La Rosa, F. (2024). Research in the greenwashing field: concepts, theories, and potential impacts on economic and social value. Journal of Management and Governance, 28(2), 405-444. https://doi. org/10.1007/s10997-023-09686-5
- Borges, F. M., Rampasso, I. S., Quelhas, O. L., Leal Filho, W., & Anholon, R. (2022). Addressing the UN SDGs in sustainability reports: An analysis of Latin American oil and gas companies. Environmental Challenges, 7, 100515. https://doi. org/10.1016/j.envc.2022.100515
- Bose, S., Khan, H. Z., & Bakshi, S. (2024). and consequences Determinants sustainable development goals disclosure: International evidence. Journal of Cleaner Production, 434, 140021. https://doi. org/10.1016/j.jclepro.2023.140021
- Chams, N., & García-Blandón, J. (2019). Sustainable or not sustainable? The role of the board of directors. Journal of Cleaner Production, 226, 1067-1081. https://doi. org/10.1016/j.jclepro.2019.04.118
- Daniel-Vasconcelos, V., Ribeiro, M. D. S., & Crisóstomo, V. L. (2022). Does gender diversity moderate the relationship between CSR committees and Sustainable Development Goals disclosure? Evidence from Latin American companies. RAUSP Management Journal, 57(4), 434-456. https:// doi.org/10.1108/RAUSP-02-2022-0063
- Donner, E. K., Meißner, A., & Bort, S. (2024). Moving from voluntary to mandatory sustainability reporting—Transparency in sustainable development goals (SDG) reporting: An analysis of Germany's largest MNCs. Business Ethics, the Environment & Responsibility, 34(3), 900-911. https://doi. org/10.1111/beer.12687
- Erin, O. A., Bamigboye, O. A., & Oyewo, B. (2022). Sustainable development goals (SDG) reporting: an analysis of disclosure. Journal of Accounting in Emerging Economies, 12 (5), 761-789. https://doi. org/10.1108/JAEE-02-2020-0037

- ESE-PWC (2002). Presentación del ESG board readiness index: La agenda ESG en los directorios de Chile. https://www.ese.cl/Archivos/Comunicaciones/PDF/2022/Agosto/Presentacion%20Board%20Readiness%20Index%20ESE%2030%20de%20agosto%202022.pdf
- Galeazzo, A., Miandar, T., & Carraro, M. (2024). SDGs in corporate responsibility reporting: a longitudinal investigation of institutional determinants and financial performance. *Journal of Management and Governance*, 28(1), 113-136. https://doi.org/10.1007/s10997-023-09671-y
- García-Meca, E., & Martínez-Ferrero, J. (2021). Is SDG reporting substantial or symbolic? An examination of controversial and environmentally sensitive industries. *Journal of Cleaner Production*, 298, 126781. https://doi.org/10.1016/j.jclepro.2021.126781
- García-Sánchez, I. M., Aibar-Guzmán, B., Aibar-Guzmán, C., & Somohano-Rodríguez, F. M. (2022). The drivers of the integration of the sustainable development goals into the nonfinancial information system: Individual and joint analysis of their influence. *Sustainable Development*, 30 (4), 513-524. https://doi.org/10.1002/sd.2246
- GRI, UN Global Compact, & World Business Council for Sustainable (2015). *The SDG Compass: The Guide on Business Actions on the SDGs*; UN Global Compact, Global Reporting Initiative, World Business Council for Sustainable: New York, NY, USA. https://www.undp.org/ukraine/publications/sdg-compass-guide-business-action-sdgs
- Gunawan, J., Permatasari, P., & Tilt, C. (2020). Sustainable development goal disclosures: Do they support responsible consumption and production? *Journal of Cleaner Production*, 246, 118989. https://doi.org/10.1016/j.jclepro.2019.118989
- Gutiérrez-Ponce, H., & Wibowo, S. A. (2023). Sustainability Reports and Disclosure of the Sustainable Development Goals (SDGs): Evidence from Indonesian Listed Companies. *Sustainability*, *15*(24), 16919. https://doi.org/10.3390/su152416919

- Hamad, S., Lai, F. W., Shad, M. K., Shah, S. Q. A., Jan, A. A., & Ali, S. E. A. (2024). A reflection on the voluntary disclosure of sustainable development goals: The role of sustainability committee. *Business Strategy & Development*, 7 (3), e398. https://doi.org/10.1002/bsd2.398
- Manes-Rossi, F., & Nicolo', G. (2022). Exploring sustainable development goals reporting practices: From symbolic to substantive approaches—Evidence from the energy sector. *Corporate Social Responsibility and Environmental Management*, 29 (5), 1799-1815. https://doi.org/10.1002/csr.2328
- Martínez-Ferrero, J., García-Sánchez, I. M., & Ruiz-Barbadillo, E. (2018). The quality of sustainability assurance reports: The role of Big Four audit firms. *Journal of Business Ethics*, *150* (4), 971–990. https://doi.org/10.1002/bse.2061
- Morales-Parada, F., Hollander-Sanhueza, R., & Węgrzyńska, M. (2024). Divulgación de información corporativa basada en ODS en páginas web de empresas chilenas y polacas cotizadas. *Entramado*, 20 (1), 1-19. https://doi.org/10.18041/1900-3803/entramado.1.10410
- Nicolo', G., Zampone, G., De Iorio, S., & Sannino, G. (2024). Does SDG disclosure reflect corporate underlying sustainability performance? Evidence from UN Global Compact participants. *Journal of International Financial Management & Accounting*, 35 (1), 214-260. https://doi.org/10.1111/jifm.12194
- Orazalin, N., & Mahmood M. (2020). Determinants of GRI-based sustainability reporting: evidence from an emerging economy. *Journal of Accounting in Emerging Economies*, 10 (1), 140-164. https://doi.org/10.1108/JAEE-12-2018-0137
- Pinheiro, A. B., Ribeiro, C. D. M., & Bizerra, A. L. V. (2024). Board structure as a mechanism to achieve the UN 2030 Agenda in Latin America. *Cadernos EBAPE. BR*, *22*, e2022-0308. https://doi.org/10.1590/1679-395120220308x

- Pizzi, S., Rosati, F., & Venturelli, A. (2021). The determinants of business contribution to the 2030 agenda: Introducing the SDG reporting score. Business Strategy and the Environment, 30 (1), 404-421. https://doi. org/10.1002/bse.2628
- Quintero García, L. T., Gaitán Riaño, S. C., & Saavedra Najar, R. A. (2024). Corporate Governance and Sustainability in Latin America. RAN - Revista Academia & Negocios, 10 (2), 313-331. https://doi. org/10.29393/RAN10-20GCLS30020
- Silva, S. (2021). Corporate contributions to the Sustainable Development Goals: An empirical analysis informed by legitimacy theory. Journal of Cleaner Production, 292, 125962. https://doi.org/10.1016/j. jclepro.2021.125962
- Sekarlangit, L. D., & Wardhani, R. (2021). The effect of the characteristics and activities of the board of directors on sustainable development goal (SDG) disclosures: Empirical evidence from southeast Asia. Sustainability, 13 (14), 8007. https://doi. org/10.3390/su13148007

- Wahyuningrum, I. F. S., Oktavilia, S., & Utami, S. (2022). The Effect of Company Characteristics and Gender Diversity on Disclosures Related to Sustainable Development Goals. Sustainability, 14 (20), 13301.https://doi.org/10.3390/su142013301
- Weerasinghe, T., Gunarathne, N., & Samudrage, D. N. (2024). Sustainable development goals disclosures: Evidence from Sri Lanka. Corporate Social Responsibility and Environmental Management, 31 (2), 993-1010. https://doi.org/10.1002/csr.2614
- Zampone, G., Nicolò, G., Sannino, G., & De Iorio, S. (2024). Gender diversity and SDG disclosure: the mediating role of the sustainability committee. Journal of Applied Accounting Research, 25 (1), 171-193. https:// doi.org/10.1108/JAAR-06-2022-0151