administrative sciences

MDPI

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Determinant Factors of SDG Disclosure in the University Context

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Abstract: Universities are expected to have a leading role in the advancement, promotion, and achievement of the 2030 UN Agenda, embedding the 17 Sustainable Development Goals (SDGs) across their four dimensions (teaching, research, campus operations and governance, and community outreach) and in their reporting cycles from a whole-institution perspective. In this landscape, academics and practitioners have started to assess universities' commitment toward the global goals. Nonetheless, research on university SDG disclosure is still in its infancy, being limited to descriptive studies, single case studies, or national contexts. This paper aims to analyse SDG disclosure in the university context from a cross-country perspective. Specifically, it investigates the internal and external factors affecting the universities' disclosure choices through an OLS regression technique based on multiple and complementary theoretical frameworks (i.e., legitimacy theory, stakeholder theory, and institutional theory). Starting from the Times Higher Education (THE) world university ranking, the sample comprises 844 universities in 81 countries observed over the course of 2021. The empirical findings show a significant and positive impact of the institutional macro-context, university size, age, and diversity on SDG disclosure. The results aim to contribute to the debate by the academic community and policy makers on the universities' commitment to fostering the awareness, collaboration, measurement, and achievement of SDGs.

Keywords: universities; SDGs; disclosure

Citation: De Iorio, Serena, Giovanni Zampone, and Anna Piccolo. 2022. Determinant Factors of SDG Disclosure in the University Context. *Administrative Sciences* 12: 21. https://doi.org/10.3390/admsci12010021

Received: 27 December 2021
Accepted: 24 January 2022
Published: 28 January 2022

1. Introduction

Since the UN Brundtland Report introduced the concept of "Sustainable Development" (SD) in 1987 (UNWCED 1987), it has become a guiding principle bridging environmental, economic, and social development concerns (Lozano 2006; del Mar Alonso-Almeida et al. 2015; Bebbington and Unerman 2018).

In the last evolution of the global SD agenda, UN member states have adopted the 2030 Agenda for SD, consisting of 17 SDGs and 169 associated targets (UN Agenda 2015). These ambitious global goals represent a "watershed moment" in the long history of SD (Elalfy et al. 2021; Leal Filho et al. 2021), providing an innovative and holistic approach to solving the world's most compelling challenges about sustainability and its three ramifications (Biermann et al. 2017; Bebbington and Unerman 2018; Mhlanga et al. 2018).

The accomplishment of the 2030 Agenda is a responsibility of all countries and industries, requiring both private and public sector organisations to take an active and influential role in embedding the global goals in their strategies, business models, and reporting systems (Biermann et al. 2017; Bebbington and Unerman 2018; De la Poza et al. 2021). Private businesses are expected to provide the key to the success of these challenges by fostering productivity, leading inclusive economic growth, and providing job creation (Fonseca and Carvalho 2019; Van der Waal and Thijssens 2020; Curtó-Pagès et al. 2021). On the contrary, the public sector is seen to be crucial in speeding up and pursuing SDGs, since it works in the public interest for social good, promoting welfare, inclusivity, and equity (Dumay et al. 2010; Bebbington and Unerman 2018; Guthrie et al. 2020).

In this context, multiple stakeholders have advocated for the education sector to lead the transformation, considering that education has been historically recognised (UNEP 1972; UN General Assembly 2003; UNESCO 2005) as a catalyst for reshaping worldwide views and values to address the sustainability challenges (Vladimirova and Blanc 2016; Kioupi and Voulvoulis 2019; Nicolò et al. 2021b). SDG 4 (Quality Education) specifically requires active actions by universities due to their unique position in society and broad remit around the creation and dissemination of knowledge and public value (Aversano et al. 2020; Nicolò et al. 2020; Caputo et al. 2021).

Universities are expected to embed the global Agenda into their value creation processes through a holistic and twofold approach (Abad-Segura and González-Zamar 2021; Blasco et al. 2021; Caputo et al. 2021). On the one hand, through their teaching, research, and third mission activities, they can promote awareness among students and local communities, equipping them with the knowledge, skills, motivation, and creativity required to achieve the SDGs (Adams 2018; Blasco et al. 2021; Leal Filho et al. 2021). On the other, through their initiatives and active policies, universities might develop the global goals by themselves and act as role models for different types of public and private organisations if they "walk the talk" (Kestin et al. 2017; Mhlanga et al. 2018; Leal Filho et al. 2021).

Universities can also benefit from joining the UN Agenda. Their commitment to the global goals should not be seen merely as a burden or a cost but rather as an opportunity (Leal Filho et al. 2021). They could build new partnerships and networks, access new funding sources, demonstrate their sustainable impact, achieve a better image, and capture more demand for SDG-related education (Kestin et al. 2017; Leal Filho et al. 2021; Sáez de Cámara et al. 2021).

As SDGs are becoming a cornerstone of the sustainability strategies of universities, interest in their contribution has increased (Adams 2018). Universities can satisfy the emerging and growing accountability expectations from their social interlocutors (e.g., policymakers, accreditation agencies, and students) by disclosing the information on their impact on economic, environmental, and societal issues (Brusca et al. 2019; Findler et al. 2019; Raimo et al. 2021). Therefore, SDG disclosure provides a valuable means for communicating universities' efforts and sustainable progress to national and international communities, with positive returns on their accountability, transparency, and performance (Findler et al. 2019; Mauro et al. 2020; Garde Sánchez et al. 2021).

Nevertheless, information on how the university community translates the global goals into concrete objectives, strategies, and actions is still patchy concerning both the number of universities engaged in this type of reporting and the quality and significance of the information disseminated to society (del Mar Alonso-Almeida et al. 2015; Mhlanga et al. 2018; Nicolò et al. 2021a). Starting from the difficulties connected to measuring universities' complex outcomes, since they are the public sector entities with the highest level of intangibles (Nicolò et al. 2021b) providing non-market, non-cash public goods (Churchman 2002), the absence of mandatory reporting requirements or specific guidelines further complicates matters (Mhlanga et al. 2018; Leal Filho et al. 2021; Zanellato and Tiron-Tudor 2021). Moreover, as shown by Mhlanga et al. (2018, p. 11), not engaging with the SDGs does not mean that organisations have no impact on these objectives or do not tackle relevant efforts. Some of these could undertake corporate sustainability activities relevant to one or more global goals without necessarily linking these to the SDGs framework.

In this realm, there are ongoing efforts to construct valuable frameworks and rankings that quantify universities' contributions to their global goals impact (De la Poza et al. 2021). In 2019, the Times Higher Education Impact Rankings (THE 2021) began to rate universities' contributions toward the SDGs. Currently, THE is the only one providing global tables that assess the universities' performance against the global goals (Blasco et al. 2021; De la Poza et al. 2021; Zanellato and Tiron-Tudor 2021).

Based on these rankings, one strand of the emerging literature has started to analyse how universities integrate the SDGs into their business strategies and reporting systems (Findler et al. 2019; Blasco et al. 2021; De la Poza et al. 2021). Apart from these rankings,

another strand has begun to investigate the topic with a single case study methodology (Paletta and Bonoli 2019; Sáez de Cámara et al. 2021; Zanellato and Tiron-Tudor 2021) or a national sample (Costa et al. 2021).

However, the question remains how the different scenarios influence the universities' choice to communicate information about the global Agenda (Caputo et al. 2021). This research aims to identify external and internal factors that may motivate and influence universities on SDG disclosure to ensure related accountability and transparency.

For a sounder grasp and analysis, this study draws from three complementary perspectives of legitimacy theory, stakeholder theory, and institutional theory, also known as system-oriented theories (Gray et al. 1995; Deegan 2002; Chen and Roberts 2010). Drawing from these multiple theoretical frameworks, this work analyses universities' SDGS disclosure determinants by testing the following hypotheses: (H1) the institutional macro-context (Meyer and Rowan 1977; Larrán Jorge et al. 2015; Rosati and Faria 2019a), (H2) universities that are larger (Carroll and Shabana 2010; Rosati and Faria 2019b; Nicolò et al. 2020), (H3) universities that are older (Roberts 1992), (H4a) universities with more student nationality diversity (Gallego-Álvarez et al. 2011; Ramirez et al. 2019), and (H4b) universities with more student gender diversity (Gilligan 1982; Wicks et al. 1994; Freeman et al. 2007).

This study performs an OLS pooled regression technique on a sample composed of 844 universities located in 81 countries and observed in 2021. As with prior studies (Blasco et al. 2021; De la Poza et al. 2021), the data were retrieved from the THE rankings (THE 2021). The empirical findings show a positive and significant influence of the institutional macro-context (external factor), university size, age, and diversity (internal factors) on SDG fulfilment.

This research is a novel contribution to the emerging literature on the SDGs and their disclosure in universities. While studies on universities' CSR or sustainability disclosure are widely diffused, SDG disclosure research is still at an early stage (De la Poza et al. 2021; Zanellato and Tiron-Tudor 2021). Thus, it contributes to filling the gap on the determinants of global goal disclosure.

In addition, this study develops new knowledge about the relationship between accounting practices and the SDGs. As some authors describe (Bebbington and Unerman 2018; Erin and Bamigboye 2021; Pizzi et al. 2021), the current academic debate on the SDGs lacks contributions from accounting scholars, which have been demanded to "be less myopic" and extend accounting remit toward accountability implications of agreements and policies from the UN Agenda (Hopper 2019, p. 3). Even though financial reporting remains a fundament of accounting, there is a pressing need for reporting to measure, monitor, and make accountable organisations help achieve SDGs (Hopper 2019).

The remainder of the paper proceeds as follows. Section 2 outlines the theoretical background, literature review, and related research hypotheses. Section 3 illustrates the dataset for the empirical analysis, defines the variables, and specifies the empirical models. Section 4 provides descriptive statistics and discusses the empirical results. Section 5 concludes the paper.

2. Theoretical Background

2.1. SDGs in the University Context: A Long Journey from SD to SDG Disclosure

Over the past 50 decades, education has been consistently recognised as a driver of change and a "path for sustainability" by worldwide initiatives and declarations (e.g., UNEP 1972; UNWCED 1987; UNCED 1992). The establishment of the "education for sustainable development" concept (ESD; UN General Assembly 2003) and then the institution of the "UN Decade for ESD", spanning from 2005 to 2014 (UNESCO 2005), has further gained momentum on the matter.

Universities have been required to embed the principles, values, and practices of SD into their educational systems to empower learners and the local community with the knowledge, skills, and attitudes necessary to make informed decisions and take responsible

actions for environmental integrity, economic viability, and a just society (Mehta 2011; del Mar Alonso-Almeida et al. 2015; Lozano et al. 2015).

However, these prior initiatives are considered to have been ineffective, with a limited positive impact on SD (Vladimirova and Blanc 2016; Kioupi and Voulvoulis 2019; Zanellato and Tiron-Tudor 2021). For instance, in the past, education institutions have used sustainability issues more to manoeuvre students and local communities into specific viewpoints than empower them to embrace these concepts as a critical lifestyle choice (Kioupi and Voulvoulis 2019, p. 2). In this vein, some authors have widely recognised the silo-based approach (or "compartmentalisation"), the lack of system thinking, and the absence of global guidelines for ESD as the root causes of these unsatisfactory results (Kioupi and Voulvoulis 2019; Leal Filho et al. 2021; Sáez de Cámara et al. 2021).

In this sense, the SDGs have marked a historic shift due to their innovative and holistic approach. They provide a normative framework that encompasses the vision of an inclusive, sustainable society, simultaneously taking into account the social, environmental, and economic dimensions (Kioupi and Voulvoulis 2019). SDG 4, which aims to ensure inclusive and equitable quality education opportunities for all, requires active action by universities, as most of its targets are directly related to learning and teaching (Blasco et al. 2021). Actually, universities have the power to boost the integration of all global goals rather than SDG 4 as a standalone goal. Accordingly, the analysis of Vladimirova and Blanc (2016, p. 5) on UN flagship reports offers a good bird's eye view of the several prominent links between education and the global goals. Beyond the obvious connection between education and some global goals (e.g., number 4), they demonstrate and describe that for every SDG, a causal link with education exists (in both directions), with the notable exception of SDG 14 on oceans.

Based on these arguments, universities have to design policies and strategies from a whole-institution perspective to holistically integrate SD and its global goals "as the golden thread throughout the university system" (Lozano 2006, p. 795). This system has four dimensions: education (courses and curricula), research, campus operations and governance, and community outreach (Cortese 2003; Lozano 2006). The SD should be incorporated, fostered, and performed across all core areas. First, through their teaching and learning activities, universities can equip the next generation of leaders, innovators, and thinkers to understand the global challenges facing the world and the role they can play in rising to meet these challenges (Kioupi and Voulvoulis 2019; Leal Filho et al. 2021; Sáez de Cámara et al. 2021). Secondly, through their research and training of research leaders, universities are at the forefront of finding sustainable social, economic, environmental, and technical solutions to global problems (Kestin et al. 2017; De la Poza et al. 2021; Leal Filho et al. 2021). Third, through their own operations and governance structures, universities can pioneer innovation and act as role models to other sectors and businesses (Kestin et al. 2017; De la Poza et al. 2021). Lastly, they should create community engagement and a sense of identity for their stakeholders, which include students, faculty, administrative staff, local firms, governments, and society at large (De la Poza et al. 2021; Leal Filho et al. 2021).

Actually, as Lozano (2006) pointed out, the universities system has a further dimension: "reporting and assessment". Hence, all dimensions must be reported and assessed through a holistic approach, embracing the "new disclosure philosophy" based on an "integrated thinking" approach that means understanding, appreciating, and communicating better the relationships with all stakeholders and the established interconnections across all dimensions (Vitolla et al. 2019).

By disclosing this information, universities can act as a role model and communicate their efforts to stakeholders (Lozano 2006; Lozano et al. 2015). Moreover, since SDG disclosure is considered a driver to fostering the SDGs' achievement and integration into organisations' strategies and operations (Lozano et al. 2015; Rosati and Faria 2019b), target 12.6 of SDG 12 requires organisations to explicitly embed sustainability information in their reporting cycles (Bebbington and Unerman 2018; Erin and Bamigboye 2021).

Based on these considerations, researchers have started investigating the SDGs and their disclosure in the university setting (Abad-Segura and González-Zamar 2021; Blasco et al. 2021; Caputo et al. 2021; Costa et al. 2021; De la Poza et al. 2021; Leal Filho et al. 2021; Sáez de Cámara et al. 2021; Zanellato and Tiron-Tudor 2021). However, this literature is still in its infancy, lacks empirical research, and is mainly limited to single case studies (Paletta and Bonoli 2019; Sáez de Cámara et al. 2021; Zanellato and Tiron-Tudor 2021) or a national sample (Costa et al. 2021).

To the best of our knowledge, only two studies have specifically investigated the universities' disclosure of SDGs on an international sample that could give generalisable findings, solve comparability issues, and broaden the extent of knowledge (Caputo et al. 2021; De la Poza et al. 2021).

Caputo et al. (2021), analysing the universities' non-financial reports available on the GRI database, outlined that the sampled universities are committed solidly to the global goals (SDG average score: 73%), in line with social expectations. They also revealed the most disclosed SDGs, those being goal number 4 (Quality education), number 10 (Reduced equalities), and number 9 (Industry, innovation, and infrastructure). Conversely, the three last positions were found to be taken by goal number 17 (Partnerships for the goals), number 3 (Good health and well-being), number 15 (Life on land), and number 2 (Zero hunger).

Drawing from the THE sample (THE 2021), De la Poza et al. (2021) found that most universities did not provide information about all SDGs, and few mentioned their contributions toward the goals.

These studies have certainly paved the way for growing research into the dissemination of SDGs in the university context but without exploring how different factors influence the choice of universities to communicate information on the Global Agenda. Instead, understanding the impact of different scenarios on SDG disclosure is crucial to monitoring, fostering, and achieving the 2030 Global Agenda.

2.2. Theoretical Lens, Literature Review, and Hypotheses Development

2.2.1. Theoretical Approaches to Sustainability Disclosure in the University Context

As previously mentioned, this paper adopts a complemental theoretical framework in an attempt to explain the SDG disclosure released by universities.

Given the multi-faceted nature of sustainability disclosure (Deegan 2002), several theories provide several reasons in terms of why an organisation might disclose sustainability information. Within these theories, legitimacy, stakeholder, and institutional theories present an "overlapping" nature because they can be simultaneously adopted to explain a social phenomenon (Gray et al. 1995). In this respect, they result from a system-oriented perspective of organisation and society which emphasises the role played by disclosure in the nexuses among organisations, the state, individuals, and groups (Gray et al. 1995).

In the context of this study, consistent with the previous literature (Deegan 2000; Owen 2008), the underpinning of the theories mentioned above supports development of the hypotheses. Thus, a brief overview of these theories is provided throughout this subparagraph, although this paper does not intend to describe a detailed insight of the adopted theories, leaving that to the further literature (Deegan 2000).

Legitimacy theory relies upon the concept of the social contract (Patten 1992), which represents the multitude of implicit and explicit expectations that society has about the organisation's conduct. Not having inherent rights to exist (Deegan 2002), an organisation's survival depends on compliance with the terms of such a contract, whose absence triggers a legitimacy gap (Lindblom 1994). Therefore, the organisation may dispose of several legitimation strategies aimed to ensure a congruence between the external perceptions of its own social values and the norms of acceptable behaviour in the more extensive social system of the community in which it is a part (Mathews 1993, p. 31).

Considered from this viewpoint, disclosure-related strategies serve as a strategy to face the societal expectations, ultimately aiming to obtain (or retain) legitimacy (Dowling

and Pfeffer 1975; Lindblom 1994; Woodward et al. 1996). Legitimacy theorists are usually referred to as a broad concept of society, which is conceived as a whole composed of individuals and groups having equal power or ability to influence the activities of other members. Put simply, legitimacy theory intentionally ignores any considerations about prevailing expectations, embracing an underlying pluralistic view of the society.

While sharing a similar foundation, stakeholder theory (Freeman 1984) emphasises the different "relevant publics" with which the organisations are called to conform with. Accordingly, many "social contracts" exist between the organisation and such publics (Donaldson and Dunfee 1999). Seen in its ethical view, stakeholder theory posits that organisations should manage their activities in the interest of all stakeholders and not exclusively for the benefit of those who provide funding (e.g., shareholders) (Ullmann 1985; Roberts 1992; Gray et al. 1995). Thus, while facing various stakeholders, organisations will balance the different emerging expectations, revealing their true social responsibilities (Hasnas 1998, p. 32). In other words, organisations recognise the stakeholders' right to be informed about the organisation's impact on society, regardless of whether they decide the usage of the provided information (Deegan 2000; Guthrie et al. 2004).

Finally, according to the institutional theory, from DiMaggio and Powell's (1983) exposition, various societal pressures thin the differences between organisational forms. In such a way, they become similar to one another. As with stakeholder theory, institutional theory complements the legitimacy theory in terms of accounting practices. It also explains why different disclosure strategies of different organisations become similar over time (Deegan and Islam 2012). Such similarities result from an isomorphism process (i.e., a situation whereby, within a specific population, organisations mimic other organisations subject to the same environmental conditions) (DiMaggio and Powell 1983). Specifically, the authors identified three isomorphic forces that led organisations to become similar. They are coercive forces, normative forces, and mimetic forces. According to North (1990), institutions operate within a context influenced by formal and informal rules, which shapes the interactions between institutions and their organisations. Against this context, the institutions represent the rules, whereas the organisations are the agents called to comply with them. While informal rules evoke the culture of a specific society (and likewise the normative forces), formal rules pertain to laws, regulations, governmental procedures, and enforcement mechanisms that shape the behaviour of organisations (Peng et al. 2008; Roy and Goll 2014) in the same fashion as coercive forces.

The previous literature extensively adopted legitimacy theory, stakeholder theory, and institutional theory, both individually and simultaneously, to explain why organisations might disclose information about their economic, societal, and environmental impacts (Raimo et al. 2021). Along this path, this paper transposes the above theories to the disclosure of SDG-related information in the university context, drawing on their tenets to develop the research hypotheses.

2.2.2. Institutional Context

Organisations operate in an institutionalised context shaped by regulations and rationality criteria, whose compliance allows them to be judged as efficient (Meyer and Rowan 1977). According to institutional theory, organisations adopt practices such as sustainability disclosure which are socially accepted due to pressures coming from their institutional environments (Fernando and Lawrence 2014).

In the business context, some researchers have investigated the relationship between sustainability disclosure and institutional factors to explain why companies decide to disclose this information as a response to the increasing pressure exerted by institutions (Jensen and Berg 2012; Coluccia et al. 2018; Rosati and Faria 2019a; Vitolla et al. 2019).

The empirical results of most studies provide evidence of a positive relationship between the presence of encouraging institutions and the disclosure of CSR information. In this way, an encouraging institutional macro-context, corresponding to a more stakeholder-

oriented system, improves the level (Cahan et al. 2016; Coluccia et al. 2018) and the quality (García-Sánchez et al. 2016) of CSR disclosure.

Since universities incorporate sustainability practices into their information systems (Lozano et al. 2013), their sustainability disclosure practices may also be influenced by the context in which they are located.

The role of the institutional macro-context has been further investigated in the university context literature, under which the influence of institutional factors in adopting and extending sustainability disclosure practices has been the subject of some studies.

Larrán Jorge et al. (2015) have examined the main factors that may explain the presence of sustainability initiatives in Spanish universities, finding that sustainability initiatives were most diffused in Spanish public universities funded by regional government bodies with greater social concerns.

The presence of sustainability practices in Spanish universities could be associated with the pressure exerted by institutional forces, such as the funding systems of higher education institutions (Larrán et al. 2016). Another study conducted by Larrán Jorge et al. (2019) documented that disclosed sustainability information is greater in Anglo-American institutions than other universities located in Europe or other countries, supporting the assumption that institutional differences could play a crucial role in shaping sustainability disclosure practices.

Accordingly, by extending these arguments to the university context, there might be a positive association between the institutional macro-context pressure on universities and the level of SDG disclosure.

The following hypothesis is posited:

Hypothesis 1 (H1). *There is a positive relationship between the pressure of the institutional macro-context and SDG disclosure.*

2.2.3. University Size

According to legitimacy theory, organisations' commitment to sustainability initiatives and the subsequent disclosure enables them to fulfil the social contract between organisations and their society, gaining legitimacy and the license to operate (Carroll and Shabana 2010). Furthermore, according to stakeholder theory, social disclosure responds to the stakeholders' information needs (Gray et al. 1995). Therefore, the size of an organisation is expected to influence sustainability disclosure, as larger organisations influence the environment in which they operate, are more visible, and face greater scrutiny and pressure from stakeholders (Fortanier et al. 2011; Gallo and Christensen 2011).

In previous business research, some authors have used the company size as a characteristic that can explain the extent of voluntary disclosure. The empirical results of most studies show a positive relationship between organisation size and voluntary disclosure (Brammer and Pavelin 2006; Tagesson et al. 2009; Rosati and Faria 2019b).

In the university context, Larrán Jorge et al. (2019) argued that the greater attention of larger universities toward sustainability reporting could find its theoretical support in legitimacy and stakeholder theory. Under these theoretical lenses, these institutions should have greater commitment to sustainability reporting for the following reasons: (1) they have a greater availability of resources for pursuing socially responsible activities (Richardson and Kachler 2017); (2) they need increased legitimisation of their activities, given their greater visibility (Larrán Jorge et al. 2015); and (3) they might meet the information needs of a wider range of stakeholders (Garde Sánchez et al. 2013).

From an empirical standpoint, Gallego-Álvarez et al. (2011) found that size positively affects university information disclosed in their website, since larger universities seek to reach their target audiences. Additionally, Ramirez et al. (2019) and Nicolò et al. (2020), exploring the factors that influence the level of Intellectual Capital Disclosure (ICD), found that the universities' size positively influenced the extent of IC disclosure.

Although some studies failed to provide empirical evidence of a positive relationship between a university's size and disclosure on SD issues (Siboni et al. 2013; Manes Rossi et al. 2018), there is a general expectation that larger universities might be more engaged in non-financial disclosure practices. Therefore, the following hypothesis is posited:

Hypothesis 2 (H2). *There is a positive relationship between university size and sustainability practices.*

2.2.4. University Age

According to legitimacy theory, to be perceived as legitimate, organisations should comply with the implicit terms of the social contract undersigned with the context in which they carry out their activities (Deegan 2002). Starting from the premise that sustainability disclosure represents a strategy that faces several aspects of the legitimation issue (Fernando and Lawrence 2014), the business context literature suggests that older organisations are more likely to meet social expectations than younger ones (Roberts 1992). In this vein, the greater experience of the well-established organisations could lead them to disclose more non-financial information, thus legitimising their power (Al-Gamrh and Al-dhamari 2016).

Furthermore, wearing the lens of stakeholder theory, the dissemination of sustainability information enables organisations to fulfil the expectations of stakeholders, who provide organisations with the critical resources for achieving their objectives, thus ensuring their survival and long-term success (Donaldson and Preston 1995; Chiu and Wang 2015). In addition, in this perspective, older organisations are more aware that greater levels of sustainability disclosure allow them to build a solid corporate image, attract new investors, and improve the relationship with all stakeholders (Al-Gamrh and Al-dhamari 2016).

In previous business research, some authors have used an organisation's age as a factor that could influence the disclosure of non-financial information (Alsaeed 2006; Hossain and Hammami 2009). These studies document a positive relationship between an organisation's age and CSR disclosure (Hossain and Hammami 2009; Al-Gamrh and Al-dhamari 2016). Contrary to this, some scholars failed to find any association between a company's age and disclosure (Alsaeed 2006; Hossain and Reaz 2007; Soliman 2013).

In the university setting, among others, Garde Sánchez et al. (2021), analysing how the main characteristics of universities might influence the online disclosure of CSR information, failed to find any association between a university's age and CSR disclosure, according to the previous studies' results (Gallego-Álvarez et al. 2011; Manes Rossi et al. 2018; Ramirez et al. 2019; Nicolò et al. 2020).

Notwithstanding this, there is a lack of evidence for the disclosure of SDG information, which could be positively affected by the ages of universities. In this respect, one can argue that well-established universities, relying on greater experience, might use SDG disclosure to meet the implicit terms of the social contract, thus obtaining legitimation for their operation. In addition, they could strengthen their relationships with various stakeholders, attempting to improve or preserve their image.

Therefore, drawing from the theoretical arguments of legitimacy and stakeholder theory, the following hypothesis is formally stated in an alternative form without indication of whether the SDG disclosure will be positively or negatively related with the university age and rather positing the mere existence of a relationship between the two concepts:

Hypothesis 3 (H3). *There is a relationship between a university's age and SDG disclosure.*

2.2.5. Diversity

From a business context point of view, globalisation and the intensification of competition have led to the opening of company boundaries by implementing internationalisation strategies that allow building a substantial competitive advantage. Indeed, when companies develop their businesses abroad, they show greater attention to improving their image and reputation (Kolk and Fortanier 2013). Furthermore, they must meet the needs

of a broader and more heterogeneous stakeholder audience (Dyduch and Krasodomska 2017). Therefore, drawing on stakeholder and legitimacy theory as a theoretical foundation, it is expected that organisations with an international outlook tend to disclose greater non-financial information levels than locally oriented ones. Previous studies have analysed the determinants of non-financial disclosure, including organisations' degrees of internationalisation (Raffournier 1995; Branco and Rodrigues 2008). According to Araya (2006), the likelihood of adopting non-financial disclosure practices will be greater for internationally oriented organisations than locally oriented ones. Another study presents similar results, according to which the degree of internationalisation of organisations is positively correlated to environmental disclosure (Raffournier 1995). Conversely, Branco and Rodrigues (2008) and Kolk and Fortanier (2013) failed to find any relationship between the organisation's internationalisation activities and its sustainability disclosure practices.

Turning to the university context, the combination of globalisation, rankings, and public funding decreases has contributed to creating a highly competitive environment (Miotto et al. 2020). Against this backdrop, the importance of internationality within universities is particularly emphasised (Gallego-Álvarez et al. 2011) in the sense that it represents the innovative response to taking market opportunities (Kim 2009) and to responding to the challenges posed by environmental and competitive forces (Gumport and Sporn 1999, p. 103). In this vein, to gain a competitive advantage, universities should develop or maintain a different image (Parameswaran and Glowacka 1995). By opening their borders, universities can obtain a competitive advantage by recruiting more capable students and researchers, allowing them to access higher education in other countries and learn about new cultures (Gallego-Álvarez et al. 2011). Thus, universities with an international image should reach an international audience. Therefore, they are expected to disclose a higher level of non-financial information than those with a limited international presence (Ramirez et al. 2016). Gallego-Álvarez et al. (2011) found that universities' degrees of internationalisation positively affect information disclosed by universities on their website. According to Manes Rossi et al. (2018) and Ramirez et al. (2019), internationality seems to represent a factor capable of positively influencing the level of IC disclosure online.

In the business literature, an additional facet of diversity is represented by the presence of women. Considered in feminist terms, stakeholder theory acquires greater usefulness, incorporating a "care" perspective to the stakeholder relationship. According to Wicks et al. (1994) and Freeman et al. (2007), stakeholders are not mere economic beings acting on economic impulse but persons whose roles and activities transcend the traditionally defined stakeholder groups, such as customers, employees, suppliers, financiers, and communities. Adopting this perspective, by considering stakeholders as persons, it is possible to treat them as gendered persons. Thus, in this context, gender equality becomes a relevant issue.

Being characterised by a relational ethic (Gilligan 1982), women generate value for entire groups of stakeholders, developing effective forms of cooperation, decentralising power and authority, and promoting consensus among stakeholders through communication (Wicks et al. 1994). Hence, more gender equality-oriented organisations should address gender issues in a variety of ways, depending on the sector where they operate (Derry 1996), aiming to explicitly consider women as stakeholders in their roles and as members of a broader society.

By extending these arguments to the university context, it is expected that the greater presence of women leads universities to take into account such a stakeholder group, establishing communication with them though sustainability disclosure and seeking legitimation for their actions.

Drawing from the theoretical arguments presented above and prior research findings, there could be a positive association between diversity and universities' levels of sustainability disclosure.

Therefore, the following hypotheses are posited:

Hypothesis 4a (4a). *There is a positive relationship between universities' degrees of internationalisation and SDG disclosure.*

Hypothesis 4b (4b). *There is a positive relationship between universities' degrees of gender diversity and SDG disclosure.*

3. Research Design

3.1. Sample

The data collection was based on the information retrieved from the following data sources:

1. The THE World University Rankings (Blasco et al. 2021; De la Poza et al. 2021;)
2. The Fraser Institute (https://www.fraserinstitute.org/, accessed on 28 November 2021) website (Gallego-Álvarez and Pucheta-Martínez 2020).

THE World University Rankings provided the THE Impact Rankings, which assess universities' commitment against the United Nations' Sustainable Development Goals (SDGs). Specifically, the THE released the Impact Rankings 2021 digital edition, covering 1240 universities from 94 countries and regions. The decision to use this edition in lieu of the information available online for the years 2019–2021 was driven by the following reasons: (1) the Impact Rankings 2019 considered only 11 of the 17 SDGs, and (2) the THE Impact Rankings 2021 digital edition, different from the information available online, contains more SDG scores that do not fall into a range. For this ensemble of considerations, the decision made seemed to be more rigorous from a methodology standpoint.

In relation to the Fraser Institute website, the "Economic Freedom Ranking" dataset was employed to collect country-level information. In particular, this included several sub-indicators which captured macro-contextual information on 165 countries.

Thus, after merging the data retrieved from the above data sources, a sample of 844 universities (68.06% of the initial sample) located in 81 countries (86.17%) was obtained. Table 1 reports the distribution of universities by country.

Table 1. Sample composition by country.

Country	Frequency	Percentage
Algeria	4	0.47
Argentina	2	0.24
Armenia	1	0.12
Australia	22	2.61
Azerbaijan	2	0.24
Bahrain	1	0.12
Bangladesh	4	0.47
Belarus	2	0.24
Belgium	2	0.24
Brazil	35	4.15
Bulgaria	1	0.12
Cambodia	1	0.12
Canada	22	2.61
Chile	15	1.78
China	11	1.30
Colombia	13	1.54
Costa Rica	2	0.24
Croatia	1	0.12
Cyprus	2	0.24
Czech Republic	6	0.71
Denmark	2	0.24
Ecuador	6	0.71
Egypt	26	3.08
Finland	8	0.95

Table 1. *Cont.*

Country	Frequency	Percentage
France	15	1.78
Germany	5	0.59
Ghana	2	0.24
Greece	5	0.59
Hong Kong	1	0.12
Hungary	5	0.59
Iceland	2	0.24
India	36	4.27
Indonesia	14	1.66
Iran	24	2.84
Iraq	17	2.01
Ireland	9	1.07
Israel	1	0.12
Italy	14	1.66
Jamaica	1	0.12
Japan	56	6.64
Jordan	6	0.71
Kazakhstan	4	0.47
Kenya	1	0.12
Kuwait	1	0.12
Latvia	4	0.47
Lebanon	4	0.47
Malaysia	15	1.78
Mexico	15	1.78
Morocco	3	0.36
Netherlands	5	0.59
New Zealand	7	0.83
Nigeria	4	0.47
Norway	1	0.12
Pakistan	24	2.84
Peru	7	0.83
Philippines	2	0.24
Poland	11	1.30
Portugal	9	1.07
Qatar	1	0.12
Romania	9	1.07
Russia	48	5.69
Saudi Arabia	11	1.30
Slovakia	4	0.47
Slovenia	1	0.12
South Africa	4	0.47
South Korea	16	1.90
Spain	36	4.27
Sri Lanka	2	0.24
Sweden	1	0.12
Switzerland	3	0.36
Taiwan	30	3.55
Tanzania	1	0.12
Thailand	19	2.25
Tunisia	5	0.59
Turkey	37	4.38
UAE	3	0.36
Ukraine	8	0.95
United Kingdom	47	5.57
United States	33	3.91
Uruguay	1	0.12
Vietnam	3	0.36
Total	844	100

As can be seen in Table 1, the universities located in Japan (56 observations, 6.64% of the entire sample), Russia (48, 5.69%), the United Kingdom (47, 5.57%), Turkey (37, 4.38%), India (36, 4.27%), Spain (36, 4.27%) and Brazil (35, 4.15%) represented more than one third of the whole sample.

Table 2 shows the sample distribution by region.

Table 2. Sample composition by region.

Region	Frequency	Percentage
Africa	50	5.92
Asia	347	41.11
Europe	266	31.52
North America	58	6.87
Oceania	29	3.44
South America	94	11.14
Total	844	100

As reported in Table 2, the most represented region was Asia, which accounted for 41.11% of the sample. On the contrary, Oceania represented the region with fewer observations, accounting for 3.44% of the sample.

3.2. Dependent Variable

To bridge from theoretical framework to an empirical measure, a disclosure index was employed to measure the extent of SDG disclosure issued by international universities. Accordingly, the dependent variable, SDGs, was defined on the basis of the 17 SDG scores provided by the THE World University Rankings for 2021. As pointed out by Times Higher Education, the THE Impact Rankings are "the only global performance tables that assess universities against the United Nations' Sustainable Development Goals (SDGs)" (THE 2021). On these premises, although SDG information disclosed by universities may be measured through content analysis of the sustainability reports or other means of disclosure (e.g., website and social media), the THE Impact Rankings measures were considered to be most appropriate for the purpose of this analysis.

Thus, the approach employed in this study was based on four broad areas through which universities might deliver the SDGs pertaining to research, stewardship, outreach, and teaching. Table 3 reports the methodology followed by THE to measure all 17 SDGs, including the weight of each aspect.

Hence, to obtain an overall score, the dependent variable, SDGs, was computed as the mean of the various SDG scores provided by the universities. This means that the dependent variable reflected the average disclosure level of the universities concerning the total number of disclosed SDGs, thus taking values between 1 and 17. Equation (1) reports the development of the dependent variable:

$$SDGs = \frac{\sum_{i=1}^{N} SDG_i}{N} \quad (1)$$

Table 3. THE Impact Rankings methodology.

SDGs	Goal	Metrics	Weight
SDG 1	No poverty	Research on poverty	27%
		Proportion of students receiving financial aid due to poverty	27%
		University anti-poverty programmes	23%
		Community anti-poverty programmes	23%
SDG 2	Zero hunger	Research on hunger	27%
		Campus food waste	15.4%
		Student hunger	19.2%
		Proportion of graduates in food sustainability	19.2%
		National hunger	19.2%
SDG 3	Good health and well-being	Research on health and well-being	27%
		Proportion of health graduates	34.6%
		Collaborations and health services	38.4%
SDG 4	Quality education	Research on early years and lifelong learning education	27%
		Proportion of graduates with teaching qualifications	15.4%
		Lifelong learning measure	26.8%
		Proportion of first-generation students	30.8%
SDG 5	Gender equality	Research on gender equality	27%
		Proportion of first-generation female students	15.4%
		Student access measures	15.4%
		Proportion of senior female academics	15.4%
		Proportion of women receiving degrees	11.5%
		Women's progress measures	15.3%
SDG 6	Clean water and sanitation	Research on water	27%
		Water consumption	19%
		Water usage and care	23%
		Water reuse	12%
		Water in the community	19%
SDG 7	Affordable and clean energy	Research on clean energy	27%
		University measures toward affordable and clean energy	23%
		Energy use	27%
		Energy and the community	23%
SDG 8	Decent work and economic growth	Research on economic growth and employment	27%
		Employment practice	19.6%
		Expenditure per employee	15.4%
		Proportion of students taking work placements	19%
		Proportion of employees on secure contracts	19%
SDG 9	Industry, innovation, and infrastructure	Research on industry, innovation, and infrastructure	11.6%
		Patents citing university research	15.4%
		University spin-offs	34.6%
		Research income from industry	38.4%
SDG 10	Reduced inequalities	Research on reduced inequalities	27%
		First-generation students	15.5%
		Students from developing countries	15.5%
		Students and staff with disabilities	23%
		Measures against discrimination	19%
SDG 11	Sustainable cities and communities	Research on sustainable cities and communities	27%
		Support of arts and heritage	22.6%
		Expenditure on arts and heritage	15.3%
		Sustainable practices	35.1%

Table 3. *Cont.*

SDGs	Goal	Metrics	Weight
SDG 12	Responsible consumption and production	Research on responsible consumption and production	27%
		Operational measures	26.7%
		Proportion of recycled waste	27%
		Publication of a sustainability report	19.3%
SDG 13	Climate action	Research on climate action	27%
		Low-carbon energy use	27%
		Environmental education measures	23%
		Commitment to carbon neutral university	23%
SDG 14	Life below water	Research on life below water	27%
		Supporting aquatic ecosystems through education	19.4%
		Supporting aquatic ecosystems through action	19.4%
		Water-sensitive waste disposal	19.3%
		Maintaining a local ecosystem	19%
SDG 15	Life on land	Research on land ecosystems	27%
		Supporting land ecosystems through education	23%
		Supporting land ecosystems through action	27%
		Land-sensitive waste disposal	23%
SDG 16	Peace, justice and strong institutions	Research on peace and justice	27%
		University governance measures	26.6%
		Working with government	23.2%
		Proportion of graduates in law and civil enforcement	23.2%
SDG 17	Partnerships for the goals	Research into partnerships for the goals	27.1%
		Relationships to support the goals	18.5%
		Publication of SDG reports	27.2%
		Education for the SDGs	27.2%

Source: timeshighereducation.com/world-university-rankings/impact-rankings-2021-methodology (accessed on 18 November 2021).

3.3. Independent Variables

3.3.1. Institutional Macro-Context

Similar to the work of Gallego-Álvarez and Pucheta-Martínez (2020), the pressures coming from the institutional macro-context were captured on the basis of the Economic Freedom Rankings provided by the Fraser Institute (see: https://www.fraserinstitute.org, accessed on 28 November 2021). According to the Fraser Institute (2019), "the key ingredients of a legal system consistent with economic freedom are the rule of law, security of property rights, an independent and unbiased judiciary, and impartial and effective enforcement of the law". Accordingly, the IMC was defined as the average of nine components: (1) judicial independence, (2) impartial courts, (3) protection of property rights, (4) military interference in the rule of law and politics, (5) integrity of the legal system, (6) legal enforcement of contracts, (7) regulatory restrictions on the sale of real property, (8) reliability of police, and (9) gender legal rights adjustment.

Specifically, each of the 9 components is placed on a scale from 0 to 10, reflecting the underlying data distribution (Fraser Institute 2019). Therefore, the resulting variable, IMC, ranged between these two endpoints, as reported in the following section. Accordingly, universities located in countries with an IMC value near ten (10) were placed in a legal system more oriented toward the protection of persons and property rights, whereas universities located in countries with an IMC value near zero (0) carried out their activities against the backdrop of the lowest level of protection.

Description of the independent variables are resumed in Table 4.

Table 4. Independent variable descriptions.

Variable	Symbol	Description	Data Source	Hypothesis
Institutional macro-context	*IMC*	Pertains to the protection of persons and property rights promoted by the legal system	Fraser Institute (https://www.fraserinstitute.org/, accessed on 28 November 2021).	H1
Size	*Size*	Total number of FTE students	THE World University Rankings (https://www.timeshighereducation.com/, accessed on 28 November 2021)	H2
Age	*Age*	Age of the university, obtained as the difference between the foundation year and current year	THE World University Rankings (https://www.timeshighereducation.com/, accessed on 28 November 2021)	H3
International diversity	*ID*	Percentage of international students	THE World University Rankings (https://www.timeshighereducation.com/, accessed on 28 November 2021)	H4a
Gender diversity	*GD*	Percentage of female students	THE World University Rankings (https://www.timeshighereducation.com/, accessed on 28 November 2021)	H4b

3.3.2. Size, Age, and Diversity

Similar to the previous literature (Gallego-Álvarez et al. 2011; Larrán et al. 2014; De la Poza et al. 2021; Garde Sánchez et al. 2021), the size of universities (*Size*) was proxied by taking into account the number of students regularly enrolled in 2021.

University age (*Age*) was measured as the total number of years since the university's foundation, according to the previous literature (Gallego-Álvarez et al. 2011).

Lastly, diversity was measured though two different variables: (1) gender diversity (*GD*), which is the ratio between the total number of female students and the total number of FTE students, and (2) international diversity (*ID*), which is the ratio between the total number of foreign students and the total number of FTE students (Gallego-Álvarez et al. 2011; Blasco et al. 2021; De la Poza et al. 2021).

3.4. Model

In order to test the above-mentioned hypotheses, the following econometric model was employed:

$$SDGs = \beta_0 + \beta_1 IMC + \beta_2 Size + \beta_3 Age + \beta_4 ID + \beta_5 GD + \varepsilon \quad (2)$$

The variables included in Equation (2) are defined as follows:

- β_0 = constant;
- $\beta_1 IMC$ = Institutional macro context;
- β_2 *Size* = Total number of FTE students;
- $\beta_3 Age$ = Year of university foundation minus current year;
- $\beta_4 ID$ = Percentage of international student;
- $\beta_5 GD$ = Percentage of female students;
- ε = error term.

In addition, regional dummy variables were included to take into account the fixed effects relating to regional variant effects not included in the analysis.

4. Results

4.1. Descriptive Statistics and Univariate Results

Table 5 reports the descriptive statistics for the dependent and independent variables.

Table 5. Descriptive statistics.

Variables	*N*	Mean	SD	Min	Max
SDGs	844	54.581	15.26	16.7	93.563
IMC	844	5.734	1.18	2.937	7.828
Size	844	22,179.318	25,198.02	499	376,303
Age	844	95.914	122.492	1	1059
ID	844	10.409	12.141	0	86
GD	844	51.398	12.817	1	100

The average *SDG* disclosure index suggests that the engagement of the universities against the SDGs was relatively high (54.581), ranging from 16.7 to 93.56. This result underlines that the sampled universities showed an adequate commitment to SDGs in 2021. At the same time, this evidence demonstrates that the universities with lower scores had significant room for improvement and should aim to strengthen their commitment toward the 2030 Agenda.

Concerning the institutional macro context, the values assumed by the *IMC* variable ranged from 2.93 to 7.83, indicating an accentuated heterogeneity among countries in terms of institutional context. *Size* presented a mean of about 22,180 students, but with a standard deviation of about 25,198. This result indicates a heterogeneous distribution in terms of the number of students. The average university age was about 96 years, but with a standard deviation of about 122 years. Lastly, concerning the diversity-related variables, the average value of international diversity (*ID*) was about 10.5%, which suggests that at least 1 out of 10 students was a foreign student, whereas the average value of gender diversity (*GD*) was about 51.4%, indicating an excellent degree of gender balance.

Table 6 presents the descriptive information about the most (and least) disclosed SDGs for the sampled universities.

Table 6. Descriptive statistics for SDG disclosure.

Variables	%	Ranking (#)
SDG 1	51.662	13
SDG 2	51.783	11
SDG 3	58.28	4
SDG 4	52.996	8
SDG 5	49.727	14
SDG 6	47.724	16
SDG 7	58.461	3
SDG 8	62.928	1
SDG 9	53.647	7
SDG 10	52.226	10
SDG 11	57.686	5
SDG 12	54.389	6
SDG 13	47.086	17
SDG 14	48.332	15
SDG 15	51.734	12
SDG 16	58.898	2
SDG 17	52.989	9

According to the results provided in Table 6, the most disclosed SDGs (i.e., the SDGs with higher scores) were SDG 8 (Decent work and economic growth), SDG 16 (Peace, justice, and strong institutions), and SDG 7 (Affordable and clean energy). On the contrary, the least disclosed SDG was SDG 13 (Climate action).

That consideration would not be different when taking Figure 1 as a reference, which provides a graphical representation of the SDG scores.

Figure 1. Most disclosed SDGs.

Table 7 shows the reported SDGs in relation to the different geographical regions.

Table 7. SDG distribution by region.

Variables	Africa	Asia	Europe	North America	Oceania	South America
SDG1	44.203	47.598	52.983	76.611	71.118	54.69
SDG2	41.936	48.272	49.079	74.373	72.138	55.336
SDG3	49.986	53.032	60.036	72.49	87.396	58.302
SDG4	47.057	49.406	56.192	60.498	74.805	50.904
SDG5	40.189	42.47	54.842	65.888	78.433	49.615
SDG6	37.97	43.821	46.584	70.294	77.662	48.165
SDG7	49.514	54.859	61.193	71.042	81.647	56.01
SDG8	47.375	57.914	67.939	72.7	84.085	61.828
SDG9	40.507	52.381	56.796	74.76	70.938	38.635
SDG10	41.228	44.057	60.789	70.685	80.223	41.233
SDG11	45.775	52.286	59.989	81.252	83.532	48.635
SDG12	37.295	48.48	59.387	78.679	79.873	47.124
SDG13	40.438	38.975	52.836	65.455	72.173	42.822
SDG14	33.221	40.951	51.441	75.765	75.700	47.816
SDG15	32.722	44.277	55.246	77.725	83.106	47.776
SDG16	48.319	50.000	65.917	81.362	84.363	54.492
SDG17	48.186	47.737	54.886	69.797	86.152	48.956
Overall	45.589	48.651	57.194	66.818	80.491	49.944

As can be inferred from Table 7, Oceania represents the region with the highest level of SDG disclosure (80.491), followed by North America (66.818) and Europe (57.194). Moreover, compared with other regions, Oceania presented the highest level of disclosure for SDG 3 (Good Health and well-being), SDG 17 (Partnerships for the goals), and SDG 8 (Decent work and economic growth). Contrary to this, some regions presented a low level of SDG disclosure. For instance, the interpretation of the African results revealed that universities from African countries presented the lowest SDG disclosure (45.589), recording the lowest disclosure levels for SDG 15 (Life on land), SDG 14 (Life below water), SDG 12 (Sustainable consumption and production), and SDG 6 (Clean water and sanitation).

It should be noted that the regions with the lowest level of SDG disclosure were those belonging to the developing countries and vice versa. These results align with the evidence of De la De la Poza et al. (2021). Similarly, they found that the universities in North America and Oceania obtained the highest values. In contrast, the South American ones received the lowest values, underlining that geographical location can play a significant role in SDG achievement and disclosure due to countries' economic situations.

Table 8 presents the univariate analysis for the dependent and independent variables.

Table 8. Correlation matrix.

Variables	(1) SDGs	(2) IMC	(3) Size	(4) Age	(4) ID	(5) GD
(1) SDGs	1.000					
(2) IMC	0.510 ***	1.000				
(3) Size	0.074 **	−0.144 ***	1.000			
(4) Age	0.217 ***	0.157 ***	0.138 ***	1.000		
(5) ID	0.491 ***	0.496 ***	−0.111 ***	0.141 ***	1.000	
(6) GD	0.114 ***	0.017	0.050	0.079 **	0.083 **	1.000

*** $p < 0.01$. ** $p < 0.05$. * $p < 0.1$.

The results in Table 8 show a weak correlation between independent variables, suggesting that multicollinearity was not a problem in the proposed analysis.

In addition, to further check for the potential presence of multicollinearity, the variance inflation factor (VIF) was calculated. The results of the test are reported in Table 7.

Turning to the dependent variable, there was a strong positive correlation between the SDGs and the variables *IMC* (0.510) and *ID* (0.491), providing partial evidence of their influence on the SDGs.

4.2. Multivariate Results

Table 9 reports the results of the multivariate OLS pooled regression.

Table 9. Regression results.

Hypothesis	SDGs	Coef.	SE	t-Value	*p*-Value	Sig	VIF
H1	*IMC*	3.500021	0.437	8.01	<0.01	***	1.66
H2	*Size*	0.000088	0.000	4.84	<0.01	***	1.30
H3	*Age*	0.011152	0.0036	3.13	<0.01	***	1.19
H4a	*ID*	34.53946	4.134	8.36	<0.01	***	1.57
H4b	*GD*	5.895557	3.194	1.85	<0.1	**	1.05
	Regional FE dummies	Included					
	Constant	37.34023	4.389	8.61	>0.01	***	
	R-squared	0.427					
	Adjusted R-squared	0.420					
	F-test	62.11					
	Number of observations	844					
	Prob > F	0.000					
	Mean VIF	1.354					

*** $p < 0.01$. ** $p < 0.05$. * $p < 0.1$.

The results indicate that an encouraging institutional macro-context (IMC) was statistically positively associated with SDG disclosure ($p < 0.01$). This can be explained under the lenses of institutional theory (Meyer and Rowan 1977). Accordingly, universities, as well as other organisations, disclose information about their social and environmental impact on society due to the pressures coming from the institutional environment (Fernando and Lawrence 2014; Rosati and Faria 2019a). Therefore, H1 was accepted, steering the course of the prior literature on sustainable development disclosure in the university context (Larrán Jorge et al. 2015, 2019; Larrán et al. 2016). This turns the spotlight on the role of institutional

forces in influencing SD disclosure practices. Hence, as can be seen, universities located in countries with an encouraging institutional context are more likely to engage in SDG disclosure than their counterparts located in discouraging institutional contexts.

The size of the university positively influenced SDG disclosure ($p < 0.01$), corroborating the arguments stated in H2 and leading to it being accepted. According to legitimacy theory and stakeholder theory (Gray et al. 1995; Deegan 2000, 2002), larger organisations are more committed to sustainable disclosure for the following reasons. On the one hand, they have a wider range of stakeholders, which increases the need for legitimisation, but on the other hand, they can count on a greater availability of resources, which can be allocated to sustainable disclosure practices (Garde Sánchez et al. 2013; Larrán Jorge et al. 2015; Richardson and Kachler 2017).

The H3 hypothesis (stated in alternative non-directional form) was supported, since a positive association between *Age* and SDG disclosure was detected. Such a result uncovered a positive influence from the total number of years from the university's foundation and SDG disclosure. This may be seen from a legitimacy theory standpoint, asserting that older organisations are more likely to meet social expectations than younger ones and to gain and maintain their legitimation statuses, which are obtained over time (Roberts 1992; Al-Gamrh and Al-dhamari 2016). In the stakeholder theory lens, older organisations are aware that communicating their impact on SD issues could improve their image and reputation and manage and improve the relationship with all stakeholders (Donaldson and Preston 1995; Al-Gamrh and Al-dhamari 2016).

Afterward, there was a positive association between international diversity (*ID*) and SDGs, finding support for accepting H4a and corroborating the assumption that organisations with an international outlook tend to disclose greater non-financial information levels than locally oriented ones (Kolk and Fortanier 2013; Dyduch and Krasodomska 2017). In a similar fashion, gender diversity has a significant positive relationship with SDG disclosure ($p < 0.01$), suggesting that an increased presence of female students (*GD*) positively influences the dissemination of SDG information, leading to acceptance of H4b. This elucidates that a higher presence of female stakeholders fosters the universities' communication of their global goals commitment.

Concerning the significance of the model, both R-squared (0.427) and the adjusted R-squared (0.420) showed a relatively high explanatory power. In addition, based on the F-statistic values reported in Table 9, the model was highly significant. As mentioned in the previous section, to detect the potential presence of multicollinearity between independent variables, the VIF test was calculated. A commonly accepted rule is that multicollinearity is a problem if the VIF exceeds the critical threshold of 10.0. However, as shown by Table 8, the highest VIF value was 1.44, indicating that multicollinearity was not a problem in the specified model.

5. Conclusions

The last few decades have witnessed a surge of profound changes in the university sector and their strategic focus, core values, and modus operandi (Churchman 2002; Chatelain-Ponroy and Morin-Delerm 2016; Nicolò et al. 2020). The reduction in public funding, the ranking's growing importance, the managerialism of academic output, and globalisation have led to what has been called universities' "corporatisation" emphasising performance measurement systems (Brusca et al. 2019; Mauro et al. 2020; Nicolò et al. 2020, 2021b). University objectives have started to reflect private sector corporate philosophy, following a credo of profit and efficiency maximisation, and the role of serving the public interest has seemed to be increasingly replaced by service to the needs of private sector industry and commerce (Parker 2011, p. 8).

These reforms and the intense focus on economic and financial issues have resulted in common concerns, especially regarding economic, environmental, and social matters, criticising universities' prioritisation of private sector needs more than public interests (Parker 2011; Chatelain-Ponroy and Morin-Delerm 2016; Mauro et al. 2020).

Against this backdrop, the 2030 UN Agenda and its 17 SDGs represent an opportunity to recover their role as "public value creators", demonstrating their vital mandate in society for the SD (Mauro et al. 2020; Leal Filho et al. 2021; Sáez de Cámara et al. 2021). Specifically, universities are expected to put the global Agenda at the heart of their value creation processes, embedding the three SD dimensions holistically into their systems and leading the cultural transformation toward non-monetary purposes (Abad-Segura and González-Zamar 2021; Blasco et al. 2021; Caputo et al. 2021).

When considering SDG disclosure as a driver to foster the SD (Lozano et al. 2015; Rosati and Faria 2019b), universities are also advocated to be more accountable and transparent toward their stakeholders, communicating the information on the impact of their operations on economic, environmental, and societal issues (Bonaccorsi et al. 2010; Brusca et al. 2019; Findler et al. 2019).

However, SDG disclosure is still in its infancy, and the literature on the topic is patchy (De la Poza et al. 2021; Sáez de Cámara et al. 2021; Zanellato and Tiron-Tudor 2021).

Attempting to fill this gap and responding to recent calls for further accounting research in the field (Bebbington and Unerman 2018; Hopper 2019; Erin and Bamigboye 2021), this study investigated the internal and external determinants of SDG disclosure in the university context from a cross-country perspective. Using a sample of 844 universities across 81 countries observed in 2021, the descriptive statistics showed an adequate average level of SDG disclosure but outlined several instances of room for improvement for universities with lower engagement scores.

Based on multiple complementary theoretical frameworks, this study makes a theoretical contribution to the SDG disclosure literature. Accordingly, it supports the argument that organisations disclose their impact on social and environmental issues to comply with institutional practice. It also corroborates the theoretical assumption of legitimacy and stakeholder theory, showing that university size (in terms of enrolled students), university age, and university diversity (both in terms of international diversity and gender diversity) positively influence SDG disclosure.

The outcomes of this research will be of interest to the university sector and its stakeholders, as well as governments and policymakers.

These results could provide a reference for best practices concerning the university sector. Specifically, they could encourage institutions with lower engagement scores to overcome their traditional departmental silo thinking and adopt these disclosure practices, meet social expectations, improve their image, leverage more funding resources, and attract better students and researchers.

Governments and policymakers may have to consider this evidence to understand the characteristics related to SDG disclosure adoption and then elaborate specific guidelines to assist universities in developing better communication. Furthermore, these bodies might also consider the geographical differences showed in the descriptive statistics, since countries' socioeconomic situations unavoidably influence SDG commitment.

While acknowledging that this paper is not free from some limitations, it is the opinion of the authors that it may contribute to both SDG disclosure and especially the universities literature, opening new avenues for further research.

From a variable operational level, the adoption of the SDG scores released by the THE Impact Rankings, while providing an overall reflection of a university's engagement against the SDGs for a large number of universities, came up against the limit of the presence of little information provided by the universities. Further research could use alternative scores of SDG disclosure.

Another limitation is closely linked to the previous one. Based on secondary data, this paper did not consider information provided by the universities through other channels such as official websites, sustainability reports, and social media. Therefore, further research may be needed to consider these alternative disclosure channels to provide additional evidence.

Additionally, the time span is a further limitation. Since 2021 is the only year available on the THE rankings with the overall indication of each SDG, the present analysis considered SDG disclosure only for this year. Future studies might collect data over the years, highlighting how universities improve their communication on the global goals in terms of quantity and quality.

Finally, concerning the institutional macro-context variable operationalisation, the variable used in this study provided an idea of the formal institutional forces shaping organisational behaviours. However, other informal forces could be taken as a reference to investigate the influence of cultural values. For instance, Hofstede's dimensions could act as a proxy of cultural differences between countries where universities are located. Hence, additional research could address this issue.

Author Contributions: Conceptualization, S.D.I. and G.Z.; Data curation, S.D.I. and G.Z.; Formal analysis, S.D.I. and G.Z.; Investigation, S.D.I. and A.P.; Methodology, G.Z.; Project administration, S.D.I.; Software, G.Z.; Supervision, S.D.I. and G.Z.; Writing—original draft, S.D.I., G.Z. and A.P.; Writing—review & editing, S.D.I., G.Z. and A.P. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

References

Abad-Segura, Emilio, and Mariana-Daniela González-Zamar. 2021. Sustainable economic development in higher education institutions: A global analysis within the SDGs framework. *Journal of Cleaner Production* 294: 126133. [CrossRef]

Adams, Carol A. 2018. Debate: Integrated reporting and accounting for sustainable development across generations by universities. *Public Money & Management* 38: 332–34.

Al-Gamrh, Bakr, and Redhwan Al-dhamari. 2016. Firm characteristics and corporate social responsibility disclosure in Saudi Arabia. *International Business Management* 10: 4283–91. [CrossRef]

Alsaeed, Khalid. 2006. The association between firm-specific characteristics and disclosure: The case of Saudi Arabia. *Managerial Auditing Journal* 21: 476–96. [CrossRef]

Araya, Mónica. 2006. Exploring terra incognita: Non-financial reporting in corporate Latin America. *Journal of Corporate Citizenship* 21: 25–38. [CrossRef]

Aversano, Natalia, Ferdinando Di Carlo, Giuseppe Sannino, Paolo Tartaglia Polcini, and Rosa Lombardi. 2020. Corporate social responsibility, stakeholder engagement, and universities: New evidence from the Italian scenario. *Corporate Social Responsibility and Environmental Management* 27: 1892–99. [CrossRef]

Bebbington, Jan, and Jeffrey Unerman. 2018. Achieving the United Nations Sustainable Development Goals: An enabling role for accounting research. *Accounting, Auditing and Accountability Journal* 31: 2–24. [CrossRef]

Biermann, Frank, Norichika Kanie, and Rakhyun E. Kim. 2017. Global governance by goal-setting: The novel approach of the UN Sustainable Development Goals. *Current Opinion in Environmental Sustainability* 26: 26–31. [CrossRef]

Blasco, Natividad, Isabel Brusca, and Margarita Labrador. 2021. Drivers for Universities' Contribution to the Sustainable Development Goals: An Analysis of Spanish Public Universities. *Sustainability* 13: 89. [CrossRef]

Bonaccorsi, Andrea, Cinzia Daraio, and Aldo Geuna. 2010. Universities in the new knowledge landscape: Tensions, challenges, change—An introduction. *Minerva* 48: 1–4. [CrossRef]

Brammer, Stephen, and Stephen Pavelin. 2006. Voluntary environmental disclosures by large UK companies. *Journal of Business Finance & Accounting* 33: 1168–88.

Branco, Manuel Castelo, and Lucia Lima Rodrigues. 2008. Factors influencing social responsibility disclosure by Portuguese companies. *Journal of Business Ethics* 83: 685–701. [CrossRef]

Brusca, Isabel, Sandra Cohen, Francesca Manes-Rossi, and Giuseppe Nicolò. 2019. Intellectual capital disclosure and academic rankings in European universities: Do they go hand in hand? *Meditari Accountancy Research* 28: 51–71. [CrossRef]

Cahan, Steven F., Charl De Villiers, Debra C. Jeter, Vic Naiker, and Chris J. Van Staden. 2016. Are CSR disclosures value relevant? Cross-country evidence. *European Accounting Review* 25: 579–611. [CrossRef]

Caputo, Fabio, Lorenzo Ligorio, and Simone Pizzi. 2021. The Contribution of Higher Education Institutions to the SDGs. An Evaluation of Sustainability Reporting Practices. *Administrative Sciences* 11: 97. [CrossRef]
Carroll, Archie B., and Kareem M. Shabana. 2010. The business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews* 12: 85–105. [CrossRef]
Chatelain-Ponroy, Stéphanie, and Sophie Morin-Delerm. 2016. Adoption of sustainable development reporting by universities: An analysis of French first-time reporters. *Accounting, Auditing & Accountability Journal* 29: 887–918.
Chen, Jennifer C., and Robin W. Roberts. 2010. Toward a more coherent understanding of the organisation–society relationship: A theoretical consideration for social and environmental accounting research. *Journal of Business Ethics* 97: 651–65. [CrossRef]
Chiu, Tzu-Kuan, and Yi-Hsin Wang. 2015. Determinants of social disclosure quality in Taiwan: An application of stakeholder theory. *Journal of Business Ethics* 129: 379–98. [CrossRef]
Churchman, Deborah. 2002. Voices of the academy: Academics' responses to the corporatising of academia. *Critical Perspectives on Accounting* 13: 643–56. [CrossRef]
Coluccia, Daniela, Stefano Fontana, and Silvia Solimene. 2018. Does institutional context affect CSR disclosure? A study on Eurostoxx 50. *Sustainability* 10: 2823. [CrossRef]
Cortese, Anthony D. 2003. The critical role of higher education in creating a sustainable future. *Planning for Higher Education* 31: 15–22.
Costa, Antonio, Alessandra Tafuro, Marco Benvenuto, and Carmine Viola. 2021. Corporate Social Responsibility through SDGs: Preliminary Results from a Pilot Study in Italian Universities. *Administrative Sciences* 11: 117. [CrossRef]
Curtó-Pagès, Ferran, Enrique Ortega-Rivera, Marc Castellón-Durán, and Eva Jané-Llopis. 2021. Coming in from the cold: A longitudinal analysis of SDG reporting practices by Spanish listed companies since the approval of the 2030 agenda. *Sustainability* 13: 1178. [CrossRef]
De la Poza, Elena, Paloma Merello, Antonio Barberá, and Alberto Celani. 2021. Universities' Reporting on SDGs: Using THE Impact Rankings to Model and Measure their Contribution to Sustainability. *Sustainability* 13: 2038. [CrossRef]
Deegan, Craig. 2000. *Financial Accounting Theory*. Sydney: McGraw-Hill Book Company.
Deegan, Craig. 2002. Introduction: The legitimising effect of social and environmental disclosures—A theoretical foundation. *Accounting, Auditing & Accountability Journal* 15: 282–311.
Deegan, Craig, and Muhammad Azizul Islam. 2012. Corporate commitment to sustainability—Is it all hot air? An Australian review of the linkage between executive pay and sustainable performance. *Australian Accounting Review* 22: 384–97. [CrossRef]
del Mar Alonso-Almeida, Maria, Federic Marimon, Fernando Casani, and Jesús Rodriguez-Pomeda. 2015. Diffusion of sustainability reporting in universities: Current situation and future perspectives. *Journal of Cleaner Production* 106: 144–54. [CrossRef]
Derry, Robbin. 1996. Toward a feminist firm: Comments on John Dobson and Judith White. *Business Ethics Quarterly* 6: 101–9. [CrossRef]
DiMaggio, Paul J., and Walter W. Powell. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organisational fields. *American Sociological Review* 48: 147–60. [CrossRef]
Donaldson, Thomas, and Thomas W. Dunfee. 1999. *Ties That Bind: A Social Contracts Approach to Business Ethics*. Cambridge: Harvard Business School Press.
Donaldson, Thomas, and Lee E. Preston. 1995. The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review* 20: 65–91. [CrossRef]
Dowling, John, and Jeffrey Pfeffer. 1975. Organisational legitimacy: Social values and organisational behavior. *Pacific Sociological Review* 18: 122–36. [CrossRef]
Dumay, John, James Guthrie, and Federica Farneti. 2010. GRI sustainability reporting guidelines for public and third sector organisations: A critical review. *Public Management Review* 12: 531–48. [CrossRef]
Dyduch, Justyna, and Joanna Krasodomska. 2017. Determinants of corporate social responsibility disclosure: An empirical study of Polish listed companies. *Sustainability* 9: 1934. [CrossRef]
Elalfy, Amr, Olaf Weber, and Sean Geobey. 2021. The Sustainable Development Goals (SDGs): A rising tide lifts all boats? Global reporting implications in a post SDGs world. *Journal of Applied Accounting Research* 22: 557–75. [CrossRef]
Erin, Olayinka Adedayo, and Omololu Adex Bamigboye. 2021. Evaluation and analysis of SDG reporting: Evidence from Africa. *Journal of Accounting & Organizational Change*, *Ahead-of-print*.
Fernando, Susith, and Stewart Lawrence. 2014. A theoretical framework for CSR practices: Integrating legitimacy theory, stakeholder theory and institutional theory. *Journal of Theoretical Accounting Research* 10: 149–78.
Findler, Florian, Norma Schönherr, Rodrigo Lozano, Daniela Reider, and André Martinuzzi. 2019. The impacts of higher education institutions on sustainable development: A review and conceptualisation. *International Journal of Sustainability in Higher Education* 20: 23–38. [CrossRef]
Fonseca, Luis, and Filipe Carvalho. 2019. The reporting of SDGs by quality, environmental, and occupational health and safety-certified organisations. *Sustainability* 11: 5797. [CrossRef]
Fortanier, Fabienne, Ans Kolk, and Jonatan Pinkse. 2011. Harmonisation in CSR reporting. *Management International Review* 51: 665–96. [CrossRef]
Fraser Institute. 2019. Appendix Explanatory Notes and Data Sources. Available online: https://www.fraserinstitute.org/sites/default/files/economic-freedom-of-the-world-2019-appendix.pdf (accessed on 28 November 2021).
Freeman, Robert Edward. 1984. *Strategic Management: A Stakeholder Approach*. Boston: Pitman.

Freeman, R. Edward, Kirsten Martin, and Bidhan Parmar. 2007. Stakeholder capitalism. *Journal of Business Ethics* 74: 303–14. [CrossRef]
Gallego-Álvarez, Isabel, and María Consuelo Pucheta-Martínez. 2020. How cultural dimensions, legal systems, and industry affect environmental reporting? Empirical evidence from an international perspective. *Business Strategy and the Environment* 29: 2037–57. [CrossRef]
Gallego-Álvarez, Isabel, Luis Rodríguez-Domínguez, and Isabel-María García-Sánchez. 2011. Information disclosed online by Spanish universities: Content and explanatory factors. *Online Information Review* 35: 360–85. [CrossRef]
Gallo, Peter Jack, and Lisa Jones Christensen. 2011. Firm size matters: An empirical investigation of organisational size and ownership on sustainability-related behaviors. *Business & Society* 50: 315–49.
García-Sánchez, Isabel-Maria, Beatriz Cuadrado-Ballesteros, and Jose-Valeriano Frias-Aceituno. 2016. Impact of the institutional macro context on the voluntary disclosure of CSR information. *Long Range Planning* 49: 15–35. [CrossRef]
Garde Sánchez, Raquel, Manuel Pedro Rodríguez Bolívar, and Antonio M. López-Hernández. 2013. Online disclosure of university social responsibility: A comparative study of public and private US universities. *Environmental Education Research* 19: 709–46. [CrossRef]
Garde Sánchez, Raquel, Manuel Pedro Rodríguez Bolívar, and Antonio Manuel López Hernandez. 2021. Which Are the Main Factors Influencing Corporate Social Responsibility Information Disclosures on Universities' Websites. *International Journal of Environmental Research and Public Health* 18: 524. [CrossRef] [PubMed]
Gilligan, Carol. 1982. *In a Different Voice: Psychological Theory and Women's Development*. Cambridge: Harvard University Press.
Gray, Rob, Reza Kouhy, and Simon Lavers. 1995. Corporate social and environmental reporting: A review of the literature and a longitudinal study of UK disclosure. *Accounting, Auditing & Accountability Journal* 8: 47–77.
Gumport, Patricia J., and Barbara Sporn. 1999. Institutional Adaptation: Demands for Management Reform and University Administration. In *Higher Education: Handbook of Theory and Research*. Dordrecht: Springer, pp. 103–45.
Guthrie, James, Ricard Petty, Kittiya Yongvanich, and Federica Ricceri. 2004. Using content analysis as a research method to inquire into intellectual capital reporting. *Journal of Intellectual Capital* 5: 282–93. [CrossRef]
Guthrie, James, Ana Rita Domingues, Francesca Manes-Rossi, and Rebecca L. Orelli. 2020. Integrated reporting and Sustainable Development Goals in universities. In *The Routledge Handbook of Integrated Reporting*. London: Routledge, pp. 419–39.
Hasnas, John. 1998. The normative theories of business ethics: A guide for the perplexed. *Business Ethics Quarterly* 8: 19–42. [CrossRef]
Hopper, Trevor. 2019. Stop accounting myopia: Think globally: A polemic. *Journal of Accounting & Organizational Change* 15: 87–99.
Hossain, Mohammed, and Helmi Hammami. 2009. Voluntary disclosure in the annual reports of an emerging country: The case of Qatar. *Advances in Accounting* 25: 255–65. [CrossRef]
Hossain, Mohammed, and Masrur Reaz. 2007. The determinants and characteristics of voluntary disclosure by Indian banking companies. *Corporate Social Responsibility and Environmental Management* 14: 274–88. [CrossRef]
Jensen, Julia Catharina, and Nicola Berg. 2012. Determinants of traditional sustainability reporting versus integrated reporting. An institutionalist approach. *Business Strategy and the Environment* 21: 299–316. [CrossRef]
Kestin, Tahl, Leanne Denby, John Thwaites, and Martine Hawkes. 2017. Getting Started with the SDGs in Universities: A Guide for Universities, Higher Education Institutions, and the Academic Sector. Available online: https://resources.unsdsn.org/getting-started-with-the-sdgs-in-universities (accessed on 17 November 2021).
Kim, Terri. 2009. Transnational academic mobility, internationalisation and interculturality in higher education. *Intercultural Education* 20: 395–405. [CrossRef]
Kioupi, Vasiliki, and Nikolaos Voulvoulis. 2019. Education for sustainable development: A systemic framework for connecting the SDGs to educational outcomes. *Sustainability* 11: 6104. [CrossRef]
Kolk, Ans, and Fabienne Fortanier. 2013. Internationalisation and environmental disclosure: The role of home and host institutions. *Multinational Business Review* 21: 87–114. [CrossRef]
Larrán, Manuel, Francisco Javier Andrades Peña, and María Muriel de los Reyes. 2014. Integrating corporate social responsibility into the business and marketing curricula in Spanish universities. *ESIC Market 147* 45: 97–120. [CrossRef]
Larrán, Manuel, Jesús Herrera, and Francisco Javier Andrades. 2016. Measuring the linkage between strategies on sustainability and institutional forces: An empirical study of Spanish universities. *Journal of Environmental Planning and Management* 59: 967–92. [CrossRef]
Larrán Jorge, Manuel, Jesus Herrera Madueno, and Francisco Javier Andrades Peña. 2015. Factors influencing the presence of sustainability initiatives in the strategic planning of Spanish universities. *Environmental Education Research* 21: 1155–87. [CrossRef]
Larrán Jorge, Manuel, Francisco Javier Andrades Peña, and Jesús Herrera Madueño. 2019. An analysis of university sustainability reports from the GRI database: An examination of influential variables. *Journal of Environmental Planning and Management* 62: 1019–44. [CrossRef]
Leal Filho, Walter, Fernanda Farankenberger, Amanda Lange Salvia, Ulisses Azeiteiro, Fatima Alves, Paula Castro, Markus Will, Joost Platje, Violeta Orlovic Lovren, Luciana Brandli, and et al. 2021. A framework for the implementation of the Sustainable Development Goals in university programmes. *Journal of Cleaner Production* 299: 126915. [CrossRef]
Lindblom, Cristi K. 1994. The implications of organisational legitimacy for corporate social performance and disclosure. Paper presented at Critical Perspectives on Accounting Conference, New York NY, USA; Available online: https://ci.nii.ac.jp/naid/10025885553/ (accessed on 18 November 2021).

Lozano, Rodrigo. 2006. Incorporation and institutionalisation of SD into universities: Breaking through barriers to change. *Journal of Cleaner Production* 14: 787–96. [CrossRef]
Lozano, Rodrigo, Rebeka Lukman, Francisco Lozano, and Donald Huisingh. 2013. Declarations for sustainability in higher education: Becoming better leaders, through addressing the university system. *Journal of Cleaner Production* 48: 10–19. [CrossRef]
Lozano, Rodrigo, Kim Ceulemans, Mar Alonso-Almeida, Donald Huisingh, Francisco J. Lozano, Tom Waas, Wim Lambrechts, Rebeka Lukman, and Jean Hugé. 2015. A review of commitment and implementation of sustainable development in higher education: Results from a worldwide survey. *Journal of Cleaner Production* 108: 1–18. [CrossRef]
Manes Rossi, Francesca, Giuseppe Nicolò, and Paolo Tartaglia Polcini. 2018. New trends in intellectual capital reporting: Exploring online intellectual capital disclosure in Italian universities. *Journal of Intellectual Capital* 19: 814–35. [CrossRef]
Mathews, Martin Reginal. 1993. *Socially Responsible Accounting*. London: Chapman Hall.
Mauro, Sara Giovanna, Lino Cinquini, Elena Simonini, and Andrea Tenucci. 2020. Moving from social and sustainability reporting to integrated reporting: Exploring the potential of Italian public-funded universities' reports. *Sustainability* 12: 3172. [CrossRef]
Mehta, Sandhya Rao. 2011. Corporate social responsibility (CSR) and universities: Towards an integrative approach. *International Journal of Social Science and Humanity* 1: 300. [CrossRef]
Meyer, John W., and Brian Rowan. 1977. Institutionalised organisations: Formal structure as myth and ceremony. *American Journal of Sociology* 83: 340–63. [CrossRef]
Mhlanga, Ruth, Uwe Gneiting, and Namit Agarwal. 2018. Walking the Talk: Assessing Companies' Progress from SDG Rhetoric to Action. Available online: https://oxfamilibrary.openrepository.com/handle/10546/620550 (accessed on 15 November 2021).
Miotto, Giorgia, Cristina Del-Castillo-Feito, and Alicia Blanco-González. 2020. Reputation and legitimacy: Key factors for Higher Education Institutions' sustained competitive advantage. *Journal of Business Research* 112: 342–53. [CrossRef]
Nicolò, Giuseppe, Francesca Manes-Rossi, Johan Christiaens, and Natalia Aversano. 2020. Accountability through intellectual capital disclosure in Italian Universities. *Journal of Management and Governance* 24: 1055–87. [CrossRef]
Nicolò, Giuseppe, Natalia Aversano, Giuseppe Sannino, and Paolo Tartaglia Polcini. 2021a. Investigating Web-Based Sustainability Reporting in Italian Public Universities in the Era of Covid-19. *Sustainability* 13: 3468. [CrossRef]
Nicolò, Giuseppe, Nicola Raimo, Paolo Tartaglia Polcini, and Filippo Vitolla. 2021b. Unveiling the link between performance and Intellectual Capital disclosure in the context of Italian Public universities. *Evaluation and Program Planning* 88: 101969. [CrossRef] [PubMed]
North, Douglass C. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.
Owen, David. 2008. Chronicles of wasted time? A personal reflection on the current state of, and future prospects for, social and environmental accounting research. *Accounting, Auditing & Accountability Journal* 21: 240–67.
Paletta, Angelo, and Alessandra Bonoli. 2019. Governing the university in the perspective of the United Nations 2030 Agenda: The case of the University of Bologna. *International Journal of Sustainability in Higher Education* 20: 500–14. [CrossRef]
Parameswaran, Ravi, and Aleksandra E. Glowacka. 1995. University image: An information processing perspective. *Journal of Marketing for Higher Education* 6: 41–56. [CrossRef]
Parker, Lee. 2011. University corporatisation: Driving redefinition. *Critical Perspectives on Accounting* 22: 434–50. [CrossRef]
Patten, Dennis M. 1992. Intra-industry environmental disclosures in response to the Alaskan oil spill: A note on legitimacy theory. *Accounting, Organisations and Society* 17: 471–75. [CrossRef]
Peng, Mike W., Denis Y. L. Wang, and Yi Jiang. 2008. An institution-based view of international business strategy: A focus on emerging economies. *Journal of International Business Studies* 39: 920–36. [CrossRef]
Pizzi, Simone, Francesco Rosati, and Andrea Venturelli. 2021. The determinants of business contribution to the 2030 Agenda: Introducing the SDG Reporting Score. *Business Strategy and the Environment* 30: 404–21. [CrossRef]
Raffournier, Bernard. 1995. The determinants of voluntary financial disclosure by Swiss listed companies. *European Accounting Review* 4: 261–80. [CrossRef]
Raimo, Nicola, Filippo Vitolla, Giuseppe Nicolò, and Paolo Tartaglia Polcini. 2021. CSR disclosure as a legitimation strategy: Evidence from the football industry. *Measuring Business Excellence* 25: 493–508. [CrossRef]
Ramirez, Yolanda, Angel Tejada, and Montserrat Manzaneque. 2016. The value of disclosing intellectual capital in Spanish universities. *Journal of Organizational Change Management* 29: 176–98. [CrossRef]
Ramirez, Yolanda, Elena Merino, and Montserrat Manzaneque. 2019. Examining the intellectual capital web reporting by Spanish universities. *Online Information Review* 43: 775–98. [CrossRef]
Richardson, Alan J., and Meghan D. Kachler. 2017. University sustainability reporting: A review of the literature and development of a model. In *Handbook of Sustainability in Management Education*. Cheltenham: Edward Elgar Publishing.
Roberts, Robin. 1992. Determinants of corporate social responsibility disclosure: An application of stakeholder theory. *Accounting, Organisations and Society* 17: 595–612. [CrossRef]
Rosati, Francesco, and Lourenço Galvão Diniz Faria. 2019a. Addressing the SDGs in sustainability reports: The relationship with institutional factors. *Journal of Cleaner Production* 215: 1312–26. [CrossRef]
Rosati, Francesco, and Lourenço Galvão Diniz Faria. 2019b. Business contribution to the Sustainable Development Agenda: Organisational factors related to early adoption of SDG reporting. *Corporate Social Responsibility and Environmental Management* 26: 588–97. [CrossRef]

Roy, Abhijit, and Irene Goll. 2014. Predictors of various facets of sustainability of nations: The role of cultural and economic factors. *International Business Review* 23: 849–61. [CrossRef]

Sáez de Cámara, Estibaliz, Idoia Fernández, and Nekane Castillo-Eguskitza. 2021. A Holistic Approach to Integrate and Evaluate Sustainable Development in Higher Education. The Case Study of the University of the Basque Country. *Sustainability* 13: 392. [CrossRef]

Siboni, Benedetta, Carlotta del Sordo, and Silvia Pazzi. 2013. Sustainability reporting in state universities: An investigation of Italian pioneering practices. *International Journal of Social Ecology and Sustainable Development* 4: 1–15. [CrossRef]

Soliman, Mohammed. 2013. Firm characteristics and the extent of voluntary disclosure: The case of Egypt. *Research Journal of Finance and Accounting* 4: 71–80. [CrossRef]

Tagesson, Torbjörn, Veronica Blank, Pernilla Broberg, and Sven-Olof Collin. 2009. What explains the extent and content of social and environmental disclosures on corporate websites: A study of social and environmental reporting in Swedish listed corporations. *Corporate Social Responsibility and Environmental Management* 16: 352–64. [CrossRef]

THE. 2021. Times Higher Education World University Rankings 2021. Available online: https://www.timeshighereducation.com/world-university-rankings/impact-rankings-2021-methodology (accessed on 18 November 2021).

Ullmann, Arieh A. 1985. Data in search of a theory: A critical examination of the relationships among social performance, social disclosure, and economic performance of US firms. *Academy of Management Review* 10: 540–57.

UN–United Nations Agenda. 2015. *Transforming Our World: The 2030 Agenda for Sustainable Development*. New York: UN—United Nations, Available online: https://sustainabledevelopment.un.org/post2015/transformingourworld (accessed on 1 December 2021).

UN–United Nations General Assembly. 2003. *United Nations Decade of Education for Sustainable Development: Resolution/Adopted by the General Assembly*. New York: United Nations.

UNCED—United Nations Conference on Environment and Development. 1992. United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3–14 June 1992. Available online: https://www.un.org/en/conferences/environment/rio1992 (accessed on 1 December 2021).

UNEP–United Nations Environment Programme. 1972. *Stockholm Declaration on the Human Environment*. United Nations Environment Program. Available online: https://wedocs.unep.org/bitstream/handle/20.500.11822/29567/ELGP1StockD.pdf?sequence=1&isAllowed=y (accessed on 1 December 2021).

UNESCO—United Nations Educational, Scientific and Cultural Organization. 2005. *United Nations Decade of Education for Sustainable Development (2005–2014): International Implementation Scheme*. Paris: United Nations Educational, Scientific and Cultural Organisation.

UNWCED—United Nations World Commission on Environment and Development. 1987. *Our Common Future (The Brundtland Report)*. Oxford: Oxford University Press. Available online: https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf (accessed on 1 December 2021).

Van der Waal, Johannes W. H., and Thomas Thijssens. 2020. Corporate involvement in sustainable development goals: Exploring the territory. *Journal of Cleaner Production* 252: 119625. [CrossRef]

Vitolla, Filippo, Nicola Raimo, Michele Rubino, and Antonello Garzoni. 2019. The impact of national culture on integrated reporting quality. A stakeholder theory approach. *Business Strategy and the Environment* 28: 1558–71. [CrossRef]

Vladimirova, Katia, and David Le Blanc. 2016. Exploring links between education and sustainable development goals through the lens of UN flagship reports. *Sustainable Development* 24: 254–71. [CrossRef]

Wicks, Andrew C., Daniel R. Gilbert Jr., and R. Edward Freeman. 1994. A feminist reinterpretation of the stakeholder concept. *Business Ethics Quarterly* 4: 475–97. [CrossRef]

Woodward, David G., Pam Edwards, and Frank Birkin. 1996. Organisational legitimacy and stakeholder information provision 1. *British Journal of Management* 7: 329–47. [CrossRef]

Zanellato, Gianluca, and Adriana Tiron-Tudor. 2021. Toward a Sustainable University: Babes-Bolyai University Goes Green. *Administrative Sciences* 11: 133. [CrossRef]