On Earth as It Is in Heaven: Proxy Measurements to Assess Sustainable Development Goals at the Company Level through CSR Indicators

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Abstract: In recent years, we have witnessed dramatic changes in the following two regards: First, Corporate Social Responsibility (CSR) practices have become ubiquitous in companies, and second, the challenge that Sustainable Development (SD) presents to society and to the planet has been illustrated in the United Nations’ Sustainable Development Goals (SDGs). In this context, this study aims to identify the extent to which companies address the SDGs through their CSR practices. We conducted the present research by first performing a content analysis to determine the communalities between CSR practices and the SDGs. Then, we performed a quantitative analysis to assess the performance of various companies in terms of common aspects of CSR and SDGs. The main findings are as follows: (1) Not all SDGs are related to CSR practices; (2) companies perform differently in their CSR practices and, consequently, make different contributions to the SDGs; and (3) there is little difference among company profiles regarding their performances in CSR practices towards the SDGs. The main contributions of this study are, first, that it provides a new perspective on the relationship between CSR and SD and, second, the creation of a list of what can be considered the minimum requirements for CSR practices if the SDGs are to be reached.

Keywords: Corporate Social Responsibility (CSR); Corporate Sustainable Performance (CSP); Sustainable Development (SD); Sustainable Development Goals (SDGs); indicators; cluster latent analysis; Spain

1. Introduction

The increasing importance of Corporate Social Responsibility (CSR) for companies and society, and the need to identify and measure the results that have been achieved by organizations are major current issues in business. Concurrently, the Sustainable Development Goals (SDGs) were launched by the United Nations as part of the 2030 Agenda, defining the most critical aspects related to sustainability worldwide. In this way, each organization will naturally focus on the SDGs that are most attractive, closest, or most accessible in accordance with the CSR actions that they have implemented. From this perspective, our intention is to facilitate the intensification of CSR actions by businesses, with the goal of achieving the 17 SDGs from the UN’s 2030 Agenda.

This study is based on the strategic importance of CSR that emerged among businesses a few years ago [1–5]. According to the Green Paper from the European Commission [6], Promoting a European Framework for Corporate Social Responsibility, CSR is considered the...
voluntary integration by companies of socially and environmentally sustainable practices in terms of their operations, trade, and relationships with their partners. Later, this definition was broadened to include “the responsibility of enterprises for their impact on society”, making explicit reference to the need for collaboration with stakeholders to “integrate social, environmental, and ethical concerns; respect for human rights; and consumer concerns into their business operations and core strategy” [7].

Related to business performance and competitive success, especially by Small and Medium Enterprises (SMEs), the Howitt Report [8] states that CSR actions not only benefit society as a whole but also help companies to be competitive and economically viable in the long term. The report notes that smaller companies can be sustainable even with minimal management and without increasing their costs because CSR can be achieved by an informal and even intuitive approach. The report also highlights the link between the implementation of CSR and better results after crises by supporting the concept of responsible competitiveness.

The European Union has also made contributions in this regard. The Baldassarre Report [9] on the social responsibilities of businesses, “Responsible and Transparent Business Behavior and Sustainable Growth”, stresses that the global economic crisis was caused by fundamental errors in terms of transparency, accountability, and responsibility as well as by the adoption of a short-term view. The EU is strongly in favor of CSR and proposes that, if applied correctly and practiced by all businesses, not just large ones, such practices can contribute greatly to restoring lost confidence, thereby contributing to sustainable economic recovery.

Of all the possible ways to gain market share, we have to mention good performance, which inevitably leads to greater competitive success for companies. In this sense, the Howitt Report [8] notes that companies operating under the principles of CSR should develop new and adapted strategies which are respectful to the environment. It also emphasizes that taking into account environmental issues such as biodiversity, climate change, resource efficiency, and environmental health within business operations has the potential to promote sustainable recovery, that is to say, it encourages and highlights CSR and its relationship with the sustainability development goals.

The global context also incites companies to perform CSR-related actions. The literature states that companies play a critical role in fostering sustainable development [10]. Moreover, there is consensus among researchers that the private sector will play a crucial role in achieving SDGs [11–13]. Through the launch of SDGs, as a part of the United Nations’ 2030 Agenda to foster sustainable development, Ban Ki-moon, the secretary general, stated that “Business is a vital partner in achieving the Sustainable Development Goals. Companies can contribute through their core activities, and we ask companies everywhere to assess their impact, set ambitious goals, and communicate transparently about the results” [14]. Given that companies play this critical role in fostering sustainable development [10], it is necessary to develop new and better ways to measure and manage how companies deal with their CSR outcomes and the impacts that these practices have on SDGs.

There is also agreement regarding the importance of CSR for companies in particular and for society in general [15]. Therefore, it is logical to consider that both CSR and SD, besides their relevance, should have some communalities and synergies. This study follows the work of Bansal and Song [16], arguing that CSR and sustainability can be complementary, despite the fact that they originated from different theoretical perspectives.

Therefore, the following fundamental research question is addressed: Are companies on track to achieving the SDGs based on their CSR actions? In seeking to answer this question, we examined regional companies in the Extremadura region of Spain. Specifically, this article aims to determine the extent to which companies address sustainable development goals through their corporate social responsibility practices. This study adopts two key perspectives: first, CSR, whereby we use a scale as a proxy for CSR measurement, and, second, sustainable development, which is assessed relative to the UN SDGs. In this way,
we define a framework which reflects how companies can measure their CSR results while addressing the UN’s SDGs. At the same time, our intention is to contribute to businesses intensifying their CSR actions and looking to achieve the 17 SDGs from the UN’s 2030 Agenda. The purpose of this study is very specific: to generate a framework that defines the CSR actions carried out in companies that are related to the SDGs. To achieve our aim, we conducted the research in two phases: first, a qualitative content analysis to identify the communalities between CSR practices and the SDGs and, second, a quantitative analysis to identify companies’ performances related to the mutual aspects for CSR and SDGs. The object of research was a set of 777 companies in Extremadura (Spain).

There are two main contributions of this study. First, we present a new perspective of the relationship between CSR and SD—represented by the SDGs as a proxy—demonstrating the different performances in companies. Second, we provide what can be considered a minimum required list of CSR practices related to SDG achievement.

The present study is structured as follows. After this introduction, we present the theoretical background covering the main issues regarding CSR, corporate social performance, and the UN’s SDGs. Then, we explain the materials and methods used, including the research overview, the content analysis, and the statistical procedures. The following section presents the results, showing the communalities between CSR and SDGs, the CSR and SDG performance, the latent class analysis, the class characteristics, and the multinomial logistic regression. Finally, we present the discussion and conclusions.

2. Background and Literature Review

2.1. Corporate Social Responsibility and Corporate Social Performance

The academic world has been very prolific on Corporate Social Responsibility (CSR) studies, offering numerous contributions that have consolidated a solid study framework. In his seminal work, Carroll [17] suggested that CSR encompasses the economic, legal, ethical, and philanthropic expectations that society has of organizations in general. Later, Carroll and Bucholtz [18] pointed out that businesses must make profit, obey the law, be ethical, and behave as good members of society. Yelkikalan and Köse [19] pointed out that organizations should design their activities to meet the needs of the community in which they operate while they develop these activities and use the resources from the social structure in which they are located.

The importance of CSR for companies’ strategic benefits is not new [15,20]. Nevertheless, companies have also been forced to develop different identities as corporate citizens, turning CSR into a key issue [21]. An organization that can respond to the market and to the needs and concerns of society incorporates CSR into their business strategy with various purposes [22]: as a path to gain legitimacy [21], to perform better risk management [23–25], and as a means to gain market share [21]. At first, CSR was seen only within large companies, in which the implementation and monitoring of CSR may be easier [26,27]. Later, it was also incorporated into small and medium-sized companies (SMEs) [28,29].

Nevertheless, a company’s performance can be a complex construct. It can be understood in many ways and through several and different lenses [30]. The traditional way to look at a company’s performance is according to the economic perspective, called Corporate Financial Performance (CFP). CFP can be defined as “the extent to which a company achieves its economic goals” [31]. CFP includes several measures, such as return on asset (ROA), return on equity (ROE), and earning per share (EPS), referring to profitability [32], and stock performance, market return, Tobin’s Q, and price per share, referring to market-based measures [33]. In both cases, the premise of prioritizing shareholders as the primary stakeholder group is emphasized [31].

Later, Corporate Social Performance (CSP) arose as a way to address the challenges in measuring companies’ CSR practices. CSP is “the underlying interaction among the principles of social responsibility, the process of social responsiveness, and the policies developed to address social issues” [34]. CSP is a multidimensional construct, understood as
Current studies indicate numerous benefits derived from the adoption of socially responsible actions, defined in all areas of the organizations [36]: human resources [37], financial [38], commercial [39], and so on. Amongst these benefits, we can mention obtaining competitive advantages [40]. According to the literature, those companies that perform socially responsible actions are the most competitive, which shows the growing importance to the economy and organizations in general [41,42].

2.2. The 2030 Agenda and the Sustainable Development Goals (SDGs)

In 2015, almost 200 countries adopted the 2030 Agenda for Sustainable Development. Launched by the UN, this agenda is to be followed by all signatory countries as “a plan of action for people, planet, and prosperity” [43]. The 2030 Agenda—an extension to the previous millennium development goals—is a commitment to eradicating poverty from the planet through a collective effort [43].

An essential part of the 2030 Agenda is the Sustainable Development Goals (SDGs). The SDGs comprise 17 goals (see Table 1), 169 targets, and more than 200 indicators, and businesses, governments, and civil society must spend considerable effort to achieve the SDGs [44]. The signatory countries must deal with the SDGs and mobilize efforts to assure the capacity for making the 17 goals possible [44].

| Goal | Definition |
|------|------------|
| Goal 1 | End poverty in all its forms everywhere |
| Goal 2 | End hunger, achieve food security and improved nutrition, and promote sustainable agriculture |
| Goal 3 | Ensure healthy lives and promote well-being for all ages |
| Goal 4 | Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all |
| Goal 5 | Achieve gender equality and empower all women and girls |
| Goal 6 | Ensure availability and sustainable management of water and sanitation for all |
| Goal 7 | Ensure access to affordable, reliable, sustainable, and modern energy for all |
| Goal 8 | Promote sustained, inclusive and sustainable economic growth, full and productive employment, and decent work for all |
| Goal 9 | Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation |
| Goal 10 | Reduce inequality within and among countries |
| Goal 11 | Make cities and human settlements inclusive, safe, resilient, and sustainable |
| Goal 12 | Ensure sustainable consumption and production patterns |
| Goal 13 | Take urgent action to combat climate change and its impacts |
| Goal 14 | Conserve and sustainably use the oceans, seas, and marine resources for sustainable development |
| Goal 15 | Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification; halt and reverse land degradation; and halt biodiversity loss |
| Goal 16 | Promote peaceful and inclusive societies for sustainable development; provide access to justice for all; and build effective, accountable, and inclusive institutions at all levels |
| Goal 17 | Strengthen the means of implementation and revitalize the global partnership for sustainable development |

Source: UN [43].

In short, SDGs are considered “a major achievement in the development of shared goals for all of humanity” [45]. On the other hand, they are also one of the biggest challenges that the world faces. Regardless of its importance, one aspect emphasized by the literature
is the difficulty in adequately measuring the SDGs and, consequently, their evolution over time [46].

At present, there is extensive literature that allows us to identify several lines of research linking areas of work oriented towards each of the SDGs, as shown in the Table 2. This highlights the interest of linking CSR and SDG, although empirical studies are necessary to corroborate it.

Table 2. Objectives and results for the different lines of research related to the 17 SDGs.

| Goal  | Author | Objective                                                                 | Result |
|-------|--------|---------------------------------------------------------------------------|--------|
| Goal 1 | Sánchez-Medina et al. [47] | This study analyzed how a certain negative mood state (anomia) influences the fact that managers do not consider it advisable for their companies to become involved in reducing poverty. Also, the study also examined whether a moral disengagement mechanism, displacement of responsibility, is a mediator variable in this relationship. | The results show that anomia has a positive influence on resisting the firm’s involvement in activities related to mitigating poverty. At the same time, displacement of responsibility acts as a mediator variable between anomia and non-involvement in activities related to mitigating poverty. |
| Goal 2 | Debnath et al. [48] | The increasing size of the population poses a challenge for sustainable agricultural production in the selection of strategic projects. This work studied the socioeconomic characteristics of the portfolio of these projects before the purchase of transgenic foods. | This framework can unify the policies of agro technological improvement, corporate social responsibility, and agro export promotion. |
| Goal 3 | Conte et al. [49] | This paper studied how leading healthcare organizations are using Facebook to communicate their sustainability in terms of their focus on different components of the 3Ps (people, profit, and planet) and interactive communication strategies on social media. | The social component of sustainability prevails over environmental and economic issues, although it does not seem to generate increased consumer engagement. |
| Goal 4 | Eizaguirre et al. [50] | The objective of this paper was to determine which are the sustainability core competencies, considering three different geographical regions (Europe, Latin America, and Central Asia) and the perspective of four different stakeholders (graduates, employers, students, and academics). | Using an exploratory factor analysis, the results of this study reveal the existence of a factor intimately related to sustainability, which includes competencies such as commitment to the preservation of the environment, social responsibility, or respect for diversity and multiculturality, among others. |
| Goal 5 | Miotto et al. [51] | The main objective of this research was to analyze business schools’ communication priorities related to gender equality projects and policies in their sustainability reports, considering these as a fundamental tool for corporate legitimacy. | The results show that gender equality-related topics are a source of positive impact and legitimacy for top business schools. |
| Goal 6 | Gilsbach et al. [52] | This study tested the ability of three assessment methods to adequately reflect water-related risks of a mining operation based on a case study approach for six copper mines. | The findings indicate that the methods show potential to support water stewardship strategies. |
| Goal 7 | Lu et al. [53] | This study analyzed the main areas of CSR policies where energy companies are expected to make a positive contribution to sustainable energy development: mitigation of environmental impact, economic and social development, and good governance. | The results show that CSR can play a vital role in dealing with corruption in the energy sector at the enterprise level. |
| Goal | Author | Objective | Result |
|------|--------|-----------|--------|
| Goal 8 | Harangozo et al. [54] | This paper identified and discussed three alternatives, namely negative, zero, and positive economic growth, which are compared from a feasibility and policy perspective in relation to the transition toward sustainable development. | The shortcomings of the alternatives hinder the transition and must be further addressed by policymakers in the public and private sectors as well as by civil society. |
| Goal 9 | Martinez-Alonso et al. [55] | The aim of this research was to explore the effect that innovation, as a potential source of sustained competitive advantage and firm growth, has on the achievement of sustainable economic performance. In particular, this paper empirically examined the influence of four innovation forms (intramural R&D, extramural R&D, product innovation, and process innovation) on firms’ sustainable economic performance, considering the moderating effect of family involvement in management. | The results show a negative effect of intramural and extramural R&D on sustainable economic performance and a positive effect of process innovation on sustainable economic performance. |
| Goal 10 | Wang & Le [56] | This study focused on foreign direct investment and corporate social responsibility spending as some of the major factors in improving sustainable economic development of a country. | The results clearly highlight that a few countries have witnessed great improvement in terms of productivity and technological progression. Therefore, the decision makers must adopt the model of those countries with respect to sustainable development of the nation. |
| Goal 11 | Wang et al. [57] | The goal of this paper was to find a new calculation method to apply the index of urban disaster resilience and urban environmental cleanliness to the evaluation of county-level areas. | The evaluation showed that city disaster resilience is maintained at a low level, while indicators of urban cleanliness are lower than standards. |
| Goal 12 | Ceptureanu et al. [58] | This paper analyzed factors influencing recognition of sustainable opportunities by using an augmented sustainability process model. | The perception of the threat of the natural/communal environment and altruism toward others have the poorest impacts on opportunity recognition. |
| Goal 13 | Tsai et al. [59] | The aim of this paper was to apply activity-based costing (ABC) and the theory of constraints to analyze green product mix decision-making for joint products using a mathematical programming model and the joint production data of pharmaceutical industry companies for the processing of active pharmaceutical ingredients in drugs for medical use. | The results shows that the time-driven ABC model leads to optimal joint product mix decisions and performs a sensitivity analysis to study how the optimal solution will change with the carbon tax. |
| Goal 14 | Fasoulis & Kurt [60] | This empirical study aimed to investigate maritime industry’s insights and attitudes in relation to the newly introduced triple bottom line approach to global sustainable development. | The findings highlighted increasing awareness and adaptation of the maritime sector to the triple bottom line approach and, subsequent, sustainability absorption under the auspices of a corporate social responsibility (CSR) business model. |
| Goal 15 | Huang & Lee [61] | This study addressed climate change as references for policy-makers. | The findings of this study can contribute to consensus formation among multiple stakeholders on the sustainable development of soil and water resources and to devising foresight strategies in short-, middle-, and long-term bases. |
Once the theoretical framework on the elements are linked, and CSR and SDGs are presented, we proceed to the empirical study.

3. Materials and Methods

In this section, we explain the methods used to conduct the present study. It is split into four parts. The first part shows an overview of the research, the second describes the content analysis performed to identify the communalities between CSR practices and the SDGs, the third presents the data sources used in the study, and the last section explains the data analysis and statistical procedures.

3.1. Research Overview

As an overview, this study can be divided into three different steps, as seen in Figure 1. Each one of these steps is explained in detail in the next sections.

![Research overview](image)

**Figure 1.** Research overview.

3.2. CSR–SDGs: Content Analysis

The purpose of this phase was to identify the communalities between CSR practices and the SDGs. We used a validated CSR scale as a proxy to represent the former and the SDG definitions for the latter. CSR scales have been developed by several authors, such as Abbott and Monsen [64], Quazi and O’Brien [65], Maignan and Ferrell [66], Turker [67], and Clarkson et al. [68]. In this study, we used the scale proposed by Gallardo-Vázquez, Sánchez-Hernández, and Martínez-Azúa [69], presented in Table 3, as a proxy for companies’ CSR practices. This scale was used in a regional research project entitled “Diagnosis of Social Responsibility as a factor of innovation and development in Extremadura” from 2007 to 2010 with a large group of Extremadura businessmen [1,2,4,69–72].

A CSR scale, of great value in the research field, is a validated measurement scale for the context of this study, is currently undergoing treatment in other regional contexts belonging to countries other than Spain, and is able to draw conclusions and make comparisons to contribute to the literature. This validation of the measurement scale of CSR in Extremadura was obtained from a debugging process of indicators based on the partial

| Goal   | Author                          | Objective                                                                 | Result                                                                 |
|--------|---------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|
| Goal 16 | Navarro-Galera et al. [62]      | The aim of this study was to identify factors that can help politicians and managers improve practices of sustainability information disclosed by European local governments. | The study results highlight various demographic, socioeconomic, financial, and legal factors that may be useful to policymakers and managers in promoting the online provision of sustainability information in Anglo-Saxon, Nordic, and Southern European countries. |
| Goal 17 | González-Moreno et al. [63]     | This paper analyzed the role of the chief executive officer’s (CEO) corporate social responsibility orientation on interfirm cooperation. | The findings thus highlight the importance of leading firms in a socially responsible direction to boost their interfirm cooperation levels in international scenarios. |
least square structural equation modeling (PLS-SEM) methodology, with the conclusion of a set of defined items considered to measure the constituent constructs of CSR (see Table 3).

Table 3. Measurement scale for orientation to Corporate Social Responsibility (CSR).

| Scale for the Orientation to Corporate Social Responsibility in Extremadura |
|---|
| **Social Dimension** |
| S1 | We support the employment of people at risk of social exclusion. |
| S2 | We value the contribution of disabled people to the business world. |
| S3 | We are aware of the employees’ quality of life. |
| S4 | We pay wages above the industry average. |
| S5 | Employee compensation is related to their skills and their results. |
| S6 | We have standards of health and safety beyond the legal minimum. |
| S7 | We are committed to job creation (fellowships, creation of job opportunities in the firm, etc.). |
| S8 | We foster our employees’ training and development. |
| S9 | We have human resource policies aimed at facilitating the conciliation of employees’ professional and personal lives. |
| S10 | Employees’ initiatives are taken seriously into account in management decisions. |
| S11 | Equal opportunities exist for all employees. |
| S12 | We participate in social projects to the community. |
| S13 | We encourage employees to participate in volunteer activities or in collaboration with NGOs. |
| S14 | We have dynamic mechanisms of dialogue with employees. |
| S15 | We are aware of the importance of pension plans for employees. |
| **Economic Dimension** |
| E1 | We take particular care to offer high-quality products and/or services to our customers. |
| E2 | Our products and/or services satisfy national and international quality standards. |
| E3 | We are characterized as having the best quality-to-price ratio. |
| E4 | The guarantee of our products and/or services is broader than the market average. |
| E5 | We provide our customers with accurate and complete information about our products and/or services. |
| E6 | Respect for consumer rights is a management priority. |
| E7 | We strive to enhance stable relationships of collaboration and mutual benefit with our suppliers. |
| E8 | We understand the importance of incorporating responsible purchasing (i.e., we prefer responsible suppliers). |
| E9 | We foster business relationships with companies in this region. |
| E10 | We have effective procedures for handling complaints. |
| E11 | Our economic management is worthy of regional or national public support. |
| **Environmental Dimension** |
| M1 | We are able to minimize our environmental impact. |
| M2 | We use consumables, goods to process, and/or processed goods of low environmental impact. |
| M3 | We take energy savings into account in order to improve our levels of efficiency. |
| M4 | We attach high value to the introduction of alternative sources of energy. |
| M5 | We participate in activities related to the protection and enhancement of our natural environment. |
| M6 | We are aware of the relevance of firms planning their investments to reduce the environmental impact that they generate. |
| M7 | We are in favour of reductions in gas emissions and in the production of wastes and in favour of recycling materials. |
| M8 | We have a positive predisposition to the use, purchase, or production of environmentally friendly goods. |
| M9 | We value the use of recyclable containers and packaging. |

Source: Gallardo-Vázquez et al. [69].

Then, we performed a qualitative content analysis [73]. A qualitative content analysis is a method used to analyze text data [74]. We used this method to identify the communalities between CSR practices and the aspects addressed by the SDGs. The procedures included a codification for each CSR aspect presented in Gallardo-Vázquez, Sánchez-Hernández, and Martínez-Azúa [69] (see Table 3) and in the SDG definition by the UN [43].
This type of procedure was followed by other authors, such as Ciarli and Ráfols [75], and can be used to identify aspects to be further used as analytical categories. We used an auxiliary table for codifying, crossing, and categorizing this data. This qualitative content analysis generated a list of CSR aspects identified in each SDG (see Table 5) and made it possible to measure companies’ performances related to these aspects, as explained in Section 3.4.

3.3. Database Used in the Study

The database used in this article is the same as that in Gallardo-Vázquez et al. [69] to develop a CRS scale. It comprises information on 777 companies researched in the community of Extremadura, Spain. In this context, data reuse is a choice to explore more findings from an existing dataset by using different approaches and analytic tools. This procedure has been fostered by research agencies worldwide as a positive pathway for science development [76–79].

Moreover, the corresponding predetermined replacement companies to control the non-response index were considered. To obtain the 777 objective surveys, it was necessary to contact 7022 companies in Extremadura. The participation rate was 11.07%, which corresponds to the percentage of companies in which a valid interlocutor has been located who has agreed to participate in the study. Table 4 presents the technical features of that database.

Table 4. Research data sheet.

| Data Sheet                          |
|-------------------------------------|
| Universe                           | Extremadura companies: 67,181 companies (Source: DIRCE 2009) |
| Geographical Scope                 | Extremadura region (Spain) |
| Data gathering method              | Telephone |
| Sample unit                        | Executives |
| Calls made                         | 19,292 |
| Population census                  | 7022 companies |
| Sample                             | 777 companies |
| Participation rate                 | 11.07% |
| Sample error                       | 3.3% |
| Confidence level                   | 95% $z = 1.96$ $p = q = 0.5$ |
| Sampling method                    | Simple Random for each extract |
| Interview average time             | 14:35 min |

Source: Gallardo-Vázquez et al. [69].

3.4. Statistical Procedures

To assess the unobserved heterogeneity amongst the surveyed companies, we employed latent class analysis (LCA). LCA is a statistical procedure employed to identify latent response patterns, which are not measured directly but identified through observed variables (or indicators) [80,81].

The reasoning behind the use of LCA is similar to that for the exploratory factor analysis (EFA), where indicators are “grouped” in factors by orthogonal or oblique equations and those factors are not known previously by the researcher. Rather than assigning a “factor” to a set of observed variables, LCA discriminates cases based on probabilities of belonging to one or another identified latent class.

LCA is also referred to as a posteriori clustering but, conversely from a priori clustering techniques (i.e., k-means and hierarchical), can manage any type of scale (nominal, ordinal, and ratio) and data (normal distributed and non-normal distributed) and provides the identification of hidden groups in a “case-centered” approach [82,83].

The indicators related to each SDG were computed into a summated rate scale to generate a total score. The scores obtained were then split into five equal parts (20% of the total score) to generate a rank of responses, ranging from 1 = very low, 2 = low, 3 = medium, 4 = high, and 5 = very high, using a monotonic transformation [84].
Finally, the nomological network of the scores rank was assessed via bivariate correlation with a confidence interval. The nomological network, sometimes called nomological validity, implies that all “constructs” (in this case, the summated rank scales) correlate with each other in a significant way, and the confidence interval is one of the evidences of that such a significance is not by chance [85].

We employed LatentGold 5.1 to perform LCA and Jamovi for descriptive, inferential, and multinomial logistic regression.

4. Results

4.1. Communalities between CSR and SDGs

As explained in Section 3.2, the first outcome of the study is a matrix comprising the communalities between CSR using a CSR scale as a proxy and the SDGs, as shown in Table 5.

| Goal | CSR Indicators                                                                 | SDG Indicators                                                                 |
|------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| S3   | We are aware of the employees’ quality of life.                              |                                                                                |
| S9   | We have human resource policies aimed at facilitating the conciliation of employees’ professional and personal lives. |                                                                                |
| M3   | We take energy savings into account in order to improve our levels of efficiency. |                                                                                |
| M4   | We attach high value to the introduction of alternative sources of energy.    |                                                                                |
| S4   | We pay wages above the industry average.                                     |                                                                                |
| S5   | Employee compensation is related to their skills and their results.           |                                                                                |
| S6   | We have standards of health and safety beyond the legal minimum.             |                                                                                |
| S7   | We are committed to job creation (fellowships, creation of job opportunities in the firm, etc.). |                                                                                |
| S8   | We foster our employees’ training and development.                           |                                                                                |
| S13  | Employees’ initiatives are taken seriously into account in management decisions. |                                                                                |
| S14  | We have dynamic mechanisms of dialogue with employees.                        |                                                                                |
| S15  | We are aware of the importance of pension plans for employees.               |                                                                                |
| E9   | We foster business relationships with companies in this region.              |                                                                                |
| E11  | Our economic management is worthy of regional or national public support.    |                                                                                |
| S1   | We support the employment of people at risk of social exclusion.             |                                                                                |
| S2   | We value the contribution of disabled people to the business world.          |                                                                                |
| S11  | Equal opportunities exist for all employees.                                 |                                                                                |
| S12  | We participate in social projects to the community.                          |                                                                                |
| E1   | We take particular concern to offer high-quality products and/or services to our customers. |                                                                                |
| E2   | Our products and/or services satisfy national and international quality standards. |                                                                                |
| E3   | We are characterized as having the best quality-to-price ratio.              |                                                                                |
| E4   | The guarantee of our products and/or services is broader than the market average. |                                                                                |
| E5   | We provide our customers with accurate and complete information about our products and/or services. |                                                                                |
| E6   | Respect for consumer rights is a management priority.                        |                                                                                |
| E7   | We strive to enhance stable relationships of collaboration and mutual benefit with our suppliers. |                                                                                |
| E8   | We understand the importance of incorporating responsible purchasing (i.e., we prefer responsible suppliers). |                                                                                |
| E10  | We have effective procedures for handling complaints.                        |                                                                                |
| M1   | We are able to minimize our environmental impact.                            |                                                                                |
| M2   | We use consumables, goods to process, and/or processed goods of low environmental impact. |                                                                                |
| M5   | We participate in activities related to the protection and enhancement of our natural environment. |                                                                                |
| M6   | We are aware of the relevance of firms’ planning their investments to reduce the environmental impact that they generate. |                                                                                |
| M8   | We have a positive predisposition to the use, purchase, or production of environmentally friendly goods. |                                                                                |
| M9   | We value the use of recyclable containers and packaging.                      |                                                                                |
| M7   | We are in favour of reductions in gas emissions and in the production of wastes and in favour of recycling materials. |                                                                                |

Source: Authors.
It is possible to notice that the adherence of CSR aspects to the SDGs is neither balanced nor complete. There are some SDGs, especially SDG8 and SDG12, that embrace several different CSR aspects, while some SDGs (1, 2, 4–6, 11, and 14–17) have been identified in any CSR aspect in this scale. It is important to emphasize that the content analysis contemplated “direct” relationships between CSR aspects and SDGs. Otherwise, given the systemic and multidimensional approach of the SDGs [46,86,87], the consequent analysis would have led to a matrix of such a complexity that it would be of little or no use at all for companies’ management.

4.2. CSR and SDG Performance

Once the CSR performances in different items of the Extremaduran companies were analyzed with the seven SDGs groups, we observed the differences among these groups, as shown in Table 6.

| SDG Groups | Mean | SD  | 20th perc | 40th perc | 60th perc | 80th perc |
|------------|------|-----|-----------|-----------|-----------|-----------|
| goal3_score | 15.310 | 3.393 | 13.000    | 15.000    | 16.000    | 18.000    |
| goal7_score | 15.408 | 4.311 | 12.000    | 16.000    | 17.000    | 20.000    |
| goal8_score | 58.147 | 13.311 | 48.000    | 56.000    | 61.000    | 69.000    |
| goal9_score | 12.860 | 4.785 | 9.000     | 12.000    | 15.000    | 17.000    |
| goal10_score | 26.838 | 6.822 | 21.000    | 25.000    | 29.000    | 33.000    |
| goal12_score | 116.332 | 19.021 | 101.000   | 115.000   | 124.000   | 132.000   |
| goal13_score | 8.579 | 1.846 | 8.000     | 9.000     | 10.000    | 10.000    |

Source: Authors.

4.3. Latent Class Analysis

Several steps are required to decide how many classes must be retained in any LCA. This procedure, also called class enumeration, depends upon a series of fit indices, both for model fit and diagnostic criteria.

The most used fit indices are the Bayesian information criteria (BIC), the Consistent Akaike information criteria (CAIC), the Sample-size adjusted Bayesian information criteria (SABIC), and the Approximate weight of evidence (AWE), amongst other similar ones.

The researcher should evaluate simultaneously every index to decide the optimal solution. An option is to use a graphical representation of the most relevant indices to check the “elbow” effect, like a scree plot as used in EFA. Table 7 presents the fit indices obtained in LatentGold 5.1.

| K   | LL     | BIC     | CAIC    | SABIC   | AWE    | Entropy |
|-----|--------|---------|---------|---------|--------|---------|
| 1   | −8022.821 | 16,212.029 | 16,237.029 | 16,132.642 | 16,453.415 | -       |
| 2   | −7372.367 | 14,964.364 | 14,997.364 | 14,859.574 | 15,478.081 | 0.819   |
| 3   | −7217.739 | 14,708.351 | 14,749.351 | 14,578.157 | 15,454.425 | 0.786   |
| 4   | −7135.550 | 14,597.216 | 14,646.216 | 14,441.617 | 15,526.015 | 0.780   |
| 5   | −7072.425 | 14,524.211 | 14,581.211 | 14,343.208 | 15,369.594 | 0.767   |
| 6   | −7035.273 | 14,503.150 | 14,568.150 | 14,296.744 | 15,776.454 | 0.761   |
| 7   | −7017.263 | 14,520.373 | 14,593.373 | 14,288.563 | 15,921.108 | 0.760   |

Note: K = number of classes; LL = log-likelihood; BIC = Bayesian information criteria; CAIC = consistent Akaike information criteria; SABIC = sample-size adjusted BIC; AWE = approximate weight of evidence. Bolded values indicate the “best fit” for each respective statistic. Source: Authors.

Figure 2 shows the graphic representation of each fit index. The “elbow” effect is most evident on the 2-class model, supported by the simultaneous analysis of AWE and entropy, being the model selected.

Similarly, Figure 3 shows a graphical representation of the 2-class model probability...
by each SDG rank selected. Class 1 is presented as Cluster1 (+), and Class 2 is presented as Cluster2 (♦).

Figure 2. Plot of information criterion values: latent class analysis model. Source: Authors.

Figure 3. Plot 2-class model probability by each SDG rank. Source: Authors.

4.4. Class Characteristics

Based on the 2-class model obtained, the sample was divided in two groups: indifferent \((n = 412)\) and engaged \((n = 365)\). Table 8 shows the summary of each class based on economic sector, number of employees, and annual turnover (in €).
Table 8. Class characteristics.

| Characteristics       | Class 1 Indifferent (n = 412) | Class 2 Engaged (n = 365) | Statistics |
|-----------------------|-------------------------------|---------------------------|------------|
| Economic Sector *     |                               |                           | $X^2 = 7.541$ $p < 0.01$ |
| Secondary             | 111 (26.9%)                   | 68 (18.6%)                |            |
| Tertiary              | 301 (73.1%)                   | 297 (81.4%)               |            |
| Number of Employees   |                               |                           | $X^2 = 12.473$ $p < 0.01$ |
| 1 to 9                | 390 (94.7%)                   | 320 (87.7%)               |            |
| 10 to 49              | 17 (4.1%)                     | 31 (8.5%)                 |            |
| 50 to 199             | 3 (0.7%)                      | 9 (2.5%)                  |            |
| more than 200         | 2 (0.5%)                      | 5 (1.4%)                  |            |
| Annual Turnover (in €)|                               |                           | $X^2 = 4.112$ NS |  
| 0~300,000             | 196 (47.6%)                   | 164 (44.9%)               |            |
| 300,001~700,000       | 21 (5.1%)                     | 20 (5.5%)                 |            |
| 700,001~1,500,000     | 10 (2.4%)                     | 17 (4.7%)                 |            |
| 1,500,001~6,000,000   | 4 (1.0%)                      | 5 (1.4%)                  |            |
| more than 6,000,000   | 4 (1.0%)                      | 6 (1.6%)                  |            |
| not informed          | 177 (3.0%)                    | 153(1.9%)                 |            |

Note: * For classification purposes, the economic sector was used to separate the sample on secondary sector (industry and construction), and tertiary sector (services, hospitality, trade, and transportation). Source: Authors.

4.5. Multinomial Logistic Regression

The findings from the pairwise Wald test presented in Table 9 support the results previously graphically depicted in Figure 3 about the discrimination between the classes on the SDG’s on which class membership may be differentially associated with the rank proposed by each goal.

Table 9. Discrimination between classes.

| Goal Rank  | Wald   | df  | p-Value |
|------------|--------|-----|---------|
| goal3_rank | 135.636| 1   | <0.001  |
| goal7_rank | 156.278| 1   | <0.001  |
| goal8_rank | 137.368| 1   | <0.001  |
| goal9_rank | 114.904| 1   | <0.001  |
| goal10_rank | 132.286| 1   | <0.001  |
| goal12_rank | 144.624| 1   | <0.001  |
| goal13_rank | 145.822| 1   | <0.001  |

Source: Authors.

Multinomial logistic regression (MLR) was employed to assess the odds ratio of class 2 (engaged) to score similarly to class 1 (indifferent) on each SDG rank. Table 10 shows the results of MLR.
To assess the nomological network of every summed rank and scored SDGs, the bivariate correlation with 95% of confidence interval was employed, as presented on Table 11.

Table 11. SDG nomological network.

|       | 1   | 2   | 3   | 4   | 5   | 6   | 7   |
|-------|-----|-----|-----|-----|-----|-----|-----|
| goal3_rank | —   | 0.305 *** | —   | —   | —   | —   | —   |
| goal7_rank | 0.305 *** | (0.240; 0.368) | —   | —   | —   | —   | —   |
| goal8_rank | 0.562 *** | (0.512; 0.608) | 0.369 *** | (0.360; 0.428) | —   | —   | —   |
| goal9_rank | 0.370 *** | (0.308; 0.429) | 0.249 *** | (0.182; 0.314) | 0.450 *** | (0.392; 0.504) | —   | —   |
| goal10_rank | 0.444 *** | (0.386; 0.499) | 0.368 *** | (0.306; 0.427) | 0.580 *** | (0.532; 0.625) | 0.342 *** | (0.278; 0.403) | —   | —   |
| goal12_rank | 0.402 *** | (0.341; 0.459) | 0.666 *** | (0.625; 0.703) | 0.474 *** | (0.418; 0.527) | 0.396 *** | (0.335; 0.454) | 0.443 *** | (0.385; 0.498) | —   | —   |
| goal13_rank | 0.306 *** | (0.241; 0.369) | 0.565 *** | (0.516; 0.611) | 0.297 *** | (0.231; 0.360) | 0.252 *** | (0.185; 0.317) | 0.325 *** | (0.261; 0.387) | 0.606 *** | (0.560; 0.649) | —   | —   |

Note. *** p < 0.001. Numbers in parentheses are the lower CI value and the upper CI value of Pearson’s correlation coefficient at 95% respectively. Source: Authors.
5. Discussion and Conclusions

Despite the consensus on the planetary and social crisis we live in, the way companies and their stakeholders can effectively face this phenomenon is not clear. Academics and practitioners have developed several frameworks, guidelines, and initiatives to identify the real impact of companies in society. Nevertheless, the inherent complexity and subjectivity of this issue may have brought doubts about the effectiveness of these actions.

First, this study is an initial discussion on linking socially responsible practices with the attainment of Sustainable Development Goals (SDGs). For the sake of argument, we used as a case companies in the Extremadura (Spain) area. Following Hourneaux Jr, Gabriel, and Gallardo-Vázquez [88], we aimed to define a minimum set of indicators that would lead these companies to achievement of the SDGs from the UN’s 2030 Agenda through their performance on CSR practices. This way, it would be possible for companies to measure their CSR performance to know how they can actually contribute to the SDGs.

One remark is essential at this point. Both perspectives, CSR and SD (with the SDGs as a proxy), are broad—the aspects being addressed are quite extensive—and generic, with possible criteria for inclusion or exclusion not considered so far. Complementary assessments, such as materiality analysis, can be applied for evaluating the adherence to the proposed measurement.

It is also important to remember that several SDGs (1, 2, 4–6, 11, and 14–17) have not been considered as a part of this measurement. This issue is mainly due to the fact that the business sector that being analyzed has not carried out responsible social practices related to these SDGs. Therefore, this fact may be due to the economic priorities of the company in this region and the social pressures that are more urgent [89]. On the other hand, some of the SDGs, mainly 8 and 12, have several different aspects identified through a CSR perspective. These findings are in line with Bansal and Song’s [16] proposal, to which the CSR and sustainability issues can be similar, but neither necessarily represent the same phenomenon nor are based on the same theoretical background. Although in a certain way these findings are in the same direction as the theories of interest groups related to corporate social responsibility and aimed at fulfilling the SDGs, the findings show that these actions are carried out partially [90,91].

Second, we know that company performances are a complex concept [92,93]. It can be understood and determined in many ways. Our proposal here is to combine the CSR performance, most of the time also called CSP, with the sustainability performance, represented by the SDGs, giving the CSR a long-term and multi-stakeholder orientation.

The findings show that we can identify two different classes of companies, class 1 indifferent (n = 412) and class 2 engaged (n = 365). Their performance in the analyzed items are significantly different. Therefore, these two company classes can give us an idea of their differences and the difficulties to achieve satisfactory performance for the indifferent class. The results from MLR support this statement. Companies classified as “engaged” have a 22.125 more chance to score as “very high” on goal 3 when compared to “indifferent” companies on goal 7; the odds ratio is 31.864 for the score comparison of “high” to “very low”. The “engaged” companies presented an odds ratio of 117.25 on goal 8, 22.776 on goal 10, and 19.643 on goal 13 in the comparison with the “indifferent” companies.

The odds ratio on goal 12, the most comprehensive in terms of scale items, is even more evident: 183.099 more chance for an “engaged” company to score “very high” instead of “very low” when compared to the “indifferent” companies.

Nevertheless, there is still room for defining how to manage this process, mainly regarding how to measure the SDGs [46]. Another conclusion is that, according to this analysis, it is possible that CSR actions are not extensive enough to address all the SDGs. Given the SDG complexity and broad scope, it is possible that SDG achievement can be out of the range for companies to accomplish their role in the 2030 Agenda. If there was previous analysis of the CSR actions via a scale—such as the case presented here—it would be possible to identify what we called CSR–SDG performance, i.e., how SDGs have been achieved from the perspective of CSR. Further development could also include SDG
indicators as part of the CSR–SDG company’s performance system if those indicators fit according to the company materiality analysis. Still regarding performance, it is quite clear that some CSR–SDG aspects have higher scores than others. These different levels of performance indicate a higher maturity in some aspects and a poor performance in others. Again, it can depend on the company’s profile, but lower performance levels can cause problems for the company. From the context of stakeholder theory and the corporate sustainability, organizations should focus on the three sustainability dimensions (social, economic, and environmental) contemplating a multi-stakeholder approach [90,94].

Third, regarding the characteristics of the companies. The majority of the sample is of small and medium enterprises (SMEs). SMEs have a tremendous strategic value for each country and region in which they belong, determining a significant part of economic growth [95]. Therefore, although these companies are the largest contributor to the economy of the regions, undertaking CSR practices also present a great challenge. Related to business performance and competitive success, especially by SMEs, the Howitt Report [8] states that CSR actions not only benefit society as a whole but also help companies to compete and be economically viable in the long term. The report warns that smaller companies can be sustainable even with minimal management and without increasing their costs; in these companies, CSR could be achieved by an informal and even intuitive approach. The report also highlights the positive link between companies implementing CSR and the achievement of better results when they come out of crises by supporting the concept of “responsible competitiveness”. However, it is also true that these types of companies focus more on operational aspects rather than strategic actions. This may be the reason why, on many occasions, they do not fully comply with correct application of the SDGs or with the entire deployment of resources and capacities that are required for a socially responsible company [91,94]. These results confirm that the stakeholder theory and Carroll’s postulates represent a very challenging challenge for SMEs [96].

Fourth, given the difficulty to assess sustainability-related performance, especially due to the fact that SDGs are related to the macro level and not micro level, where companies work, this CSR–SDG-combined approach can provide some diagnosis on how companies perform. In order to minimize these challenges, it is important to adopt pre-designed norms and standards for SMEs, where each of the SDG indicators and CSR actions can be measured concretely and effectively to link operational objectives with those strategic objectives [96,97]. Nevertheless, it is also important that these indicators align with the public policies of local governments to contribute to social, economic, and environmental local development [98,99].

In this study, we empirically tested the validation of an existing scale as a proxy measurement of a set of the SDGs related to company’s CSR practices. The resulting LCA model properly discriminated the sample, leading to two latent classes: “indifferent” companies and “engaged” companies. The predisposition of each group to corporate social responsibility differed significantly, both statistically as theoretically.

The odds ratios assessed via multinomial logistic regression are also another validation of our proxy measurement, since the summated scale that led to SDG ranking also showed the scale properties differentiating between subjects.

In short, it is necessary to create and develop new and better ways to measure and manage how companies deal with their CSR outcomes to know how (and if) these outcomes are related to SDGs. This initial discussion can shed some light on how companies in a given region are performing, which can also bring some insights into the creation and implementation of public policies regarding sustainable development through companies’ actions. At the same time, our intention is to contribute to the companies, clarifying and intensifying their CSR actions and looking for achievement of the SDGs and the UN’s 2030 Agenda.

Regarding the limitation of this research, we consider the extrapolation of the results to always be a complicated matter for social applied sciences. In our case, we used
a non-probabilistic sample from a specific region (Extremadura, Spain). Nevertheless, considering the characteristics of the companies, with the majority being SMEs, these set of companies are not very different from the average in the world, also composed of SMEs in its majority. However, the most important aspect here is that we did not merely evaluate the companies’ CSR performance, but their CSR performance in relation to the SDGs, according to a priori defined set of elements. In this aspect, we believe this approach could be generalized outside the Extremadura region, to the entire Spain territory, and to other countries. Moreover, this focus also could be extended to any set of companies, not only SMEs.

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