

# SDG reporting: an analysis of corporate sustainability leaders

SDG reporting

Idoya Ferrero-Ferrero, María Jesús Muñoz-Torres,  
Juana María Rivera-Lirio, Elena Escrig-Olmedo and  
María Ángeles Fernández-Izquierdo

*Sustainability of Organizations and CSR Management Research Group-IUDESP,  
Department of Finance and Accounting, University Jaume I, Castellón, Spain*

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Received 28 July 2022  
Revised 24 February 2023  
Accepted 24 February 2023

## Abstract

**Purpose** – This study aims to empirically analyze a sound commitment and a consistent integration of sustainable development goals (SDGs) in the corporate reporting and management systems of companies that have a leading position in sustainability.

**Design/methodology/approach** – The study applies a content analysis procedure based on a proposed analytical framework to codify the commitment and the SDG integration. In order to analyze the consistency of the integration, this study has provided a “SDG integration” score based on fuzzy inference systems methods. The companies in the sample have been identified as benchmarks in terms of sustainability in a specific region of Spain.

**Findings** – The findings show a lack of formality regarding the SDG commitment at the highest decision-making level and a low level of SDG integration in the reporting and management systems. These results are mainly explained because the most companies do not prioritize according to the materiality analysis and those SDGs more reported have not been deployed along targets and KPIs in a consistent way.

**Research limitations/implications** – The results provide practical implications that help to overcome the limitations in terms of comparison and consistency of the SDGs-reported information. It also illustrates how the leading sustainable companies are doing the SDG reporting and suggests which elements could be improved to promote a consistent integration of the SDGs in the management systems.

**Originality/value** – This study provides new work lines in the promotion of an effective SDG-business reporting based on a robust management structure that allows an alignment among the SDG-business decisions based on a normative, strategic and operational approach.

**Keywords** Sustainable development goals (SDGs), Five pillars of sustainable development goals (SDGs), Corporate reporting, Commitment, Integration, Corporate sustainability

**Paper type** Research paper

## 1. Introduction

In recent years, sustainable development has become a strategic goal for business and governments. This trend has been encouraged by the launch of the United Nations (UN) sustainable development goals (SDGs) in 2015 (United Nations, 2015), which has constituted a

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This paper is supported by the project “Propuesta de Marco de Rendición de Cuentas e Implementación estratégica de la sostenibilidad basado en los ODS: Una aplicación a la industria Hotelera y de Restauración (UJI-B2021-72) from Universitat Jaume I and by the project ‘Laboratorio de ODS de la Generalitat Valenciana: Desarrollo de Indicadores para evaluar la Implantación de los ODS en las empresas valencianas y desarrollo de acciones de fomento para la transformación social de las empresas’ from Conselleria de Economía Sostenible, Sectores Productivos, Comercio y Trabajo de la Generalitat Valenciana.



new framework to address the most urgent global issues and ensure sustainable progress considering five pillars, to better assess the 17 goals: planet, people, prosperity, peace and partnerships, also known as the 5 P's. Likewise, the SDGs initiative represents a shared vision of the great global sustainability challenges that can guide organizations in defining their roadmap to contribute to sustainable development.

The UN understand that business is a key player in achieving the SDGs, both locally and internationally. In this regard, more and more companies are committed to the SDGs and communicate their contribution publicly to their stakeholders. On this particular issue, a question arises about whether the corporate reporting regarding SDG implementation is merely symbolic or truly strategic (García-Meca and Martínez-Ferrero, 2021). On the one hand, in the academia, this question is gaining momentum and there are a large number of recent studies that explore how companies address the SDGs in their sustainability reporting (Avrampou *et al.*, 2019; García-Meca and Martínez-Ferrero, 2021; Izzo *et al.*, 2020; Lopez, 2020; Van der Waal and Thijssens, 2020). On the other hand, different international organizations (GRI *et al.*, 2015; GRI, UN Global Compact, 2018; Adams, 2017) have developed frameworks to support companies in the operationalization of SDGs.

In spite of these developments, in the academic literature has been coined terms such as SDG-washing or rainbow-washing, which are related to a symbolic approach of the SDG reporting (Heras-Saizarbitoria *et al.*, 2022). In contrast to these terms, the SDG integration at the company level could be defined as the way in which the SDGs are "operationalized in the organization in a measurable, accountable and assessable manner" (Heras-Saizarbitoria *et al.*, 2022, p. 319) with the aim of defining organizations' practices in the framework of the corporate sustainability strategy that can contribute to the achievement of SDGs. Nonetheless, empirical research is at a very early and underdeveloped stage and further studies are needed to evaluate the integration of SDGs in the management system (Borin de Oliveira Claro and Ramajo Esteves, 2021).

In this context, the main objective of this study is to explore the commitment at the highest decision-making level and the integration of SDGs in corporate reporting by means of the materiality analysis and key management elements (targets, actions and key performance indicators – KPIs). For that end, this study has focused on a sample of companies that have a leading position in sustainability of a specific region that share the same culture, language and regulatory framework. These companies have integrated social and environmental issues, as well as SDGs, in their public communication and they have been considered as benchmarks in terms of sustainability in the region. The results of this study help to promote a real implementation of the SDGs considering the consistency of the SDG information and its levels of integration in the management system. This study contributes to discourage the symbolic approach of the SDGs and promotes a complete and comprehensive perspective in the communication of the real strategy and performance on the contribution toward sustainable development.

This paper is divided in five sections. After this introduction, a review of the literature is provided. The third epigraph includes information on the sample, variables and methods used in the empirical section. The fourth section presents the results, while the final one summarizes and discusses the main findings of the study.

## 2. Literature review

The concept of "SDG reporting" has received an increasing interest in the literature in recent years. SDG reporting facilitates to plan, implement, measure and communicate the SDG business efforts (Rosati and Faria, 2019). In this respect, businesses have many reasons to include SDGs in corporate agendas: from integrating stakeholder's expectations and the major societal concerns into the business, to developing and design sustainable business models that provide business solutions to societal problems, to manage sustainability global

risks or to create innovation and investment opportunities (Avrampou *et al.*, 2019; Consolandi *et al.*, 2020; Izzo *et al.*, 2020; Vildåsen, 2018).

In spite of the potential interest of companies to integrate SDGs in their corporate strategies, recent literature calls into question whether SDG reporting is merely symbolic or truly strategic (García-Meca and Martínez-Ferrero, 2021).

On the one hand, from a theoretical point of view, impression management approach (Leary and Kowalski, 1990) may explain the symbolic approach of SDG reporting, since companies may report their contribution to the SDGs with the aim of positively influence stakeholder's perceptions about corporate behavior and to improve their reputation, rather than to create changes in management process and practices to achieve the SDGs. This approach usually applies in environments, like the SDG context, with a lack of regulation and with an absence of accepted means to show a substantial contribution to the "common good".

Accordingly, several recent studies (Avrampou *et al.*, 2019; Schramade, 2017; Izzo *et al.*, 2020; Van der Waal and Thijssens, 2020) demonstrate that many companies use SDG reporting as a symbolic reporting since they fail to show a complete integration of the SDGs into the corporate strategy. In particular, Avrampou *et al.* (2019) reveal a limited overall performance in reporting on their contribution to the SDGs. Mhlanga *et al.* (2018) highlight that companies do not identify their SDG priorities under a consistent approach, since they pick the more favorable SDGs regardless of if they are material or not, i.e. they adopt "cherry-picking" practices. Schramade (2017) shows substantial different percentages among the companies that mention the SDGs in reports or on the website, those that integrate the SDGs into strategic decisions and the companies that provide performance indicators on the SDGs. Similarly, the PWC (2018) study on information reported by global companies, concludes that 72% of companies mention the SDGs in their corporate or sustainability reports, but only 23% detail SDG indicators or goals. Likewise, Van der Waal and Thijssens (2020) and Izzo *et al.* (2020) conclude that business participation in the SDGs is more symbolic and intentional than substantive. Heras-Saizarbitoria (2022: 325) after exploring the SDG reporting of 1,370 organizations, underline that "in most of the cases, the SDG only serve to add color and fancy icons to the reports in a trend towards 'SDG icon-picking' that may point to impression management and SDG-washing". These results are related to the concept of "Rainbow Washing" since, in sustainability reports, companies only show a cosmetic integration of the SDGs in the business and a lack of performance indicators to track the progress in achieving the SDGs.

On the other hand, the substantial SDG reporting is based on the stakeholder theory (Freeman, 1984). In fact, the SDG initiative is supported by a broad range of stakeholders (García-Meca and Martínez-Ferrero, 2021; Lopez, 2020): regulators, investors, governments, consumers and companies, among others. In this regard, the integration of SDG in corporate strategy may offer a holistic and reconciliatory approach from different perspectives and expectations of stakeholders that can influence the outcome of a company.

From an empirical perspective, García-Meca and Martínez-Ferrero (2021) find evidence about a significant impact of SDG reporting on firm performance in those firms that operate under high levels of social scrutiny and stakeholder pressures about ethical and environmental issues. In addition, Borin de Oliveira Claro and Ramajo Esteves (2021) show that a substantial sample of Brazilian enterprises address the SDGs in their corporate strategies. Moreover, exploring motivating factors, these authors find the materiality assessment as a remarkable factor, since companies think that SDGs should be considered material based on the stakeholders' interest. Likewise, Lopez (2020), after exploring the integration of the SDGs in corporate web and CSR Report, in a sample of Spanish multinational companies, reveals that there is an integration of the SDGs in the corporate strategy although there is a lack of indicators to measure their contributions to SDGs.

In this context, further academic research into SDG reporting is needed to better understand how the companies are integrating the SDGs in their management system, how

they are communicating their SDGs contribution to their stakeholders and which best practices can they adopt to contribute to a real SDG corporate implementation and reporting (Bebbington and Unerman, 2018; Silva, 2021).

Different international organizations (GRI *et al.*, 2015; GRI, UN Global Compact, 2018; Adams, 2017) have provided tools and frameworks to support companies in the integration of the SDGs in their management systems. Specifically, Global Reporting Initiative (GRI), United Nations Global Compact (UN Global Compact) and World Business Council for Sustainable Development (WBCSD) (2015) developed a guide to help companies to align their strategies and to manage their SDG contribution. More recently, this guide has added an annex to link the SDGs and GRI Standards (GRI, UN Global Compact, WBCSD, 2020). In addition, GRI and UN Global Compact developed a guide to integrate the SDGs in the Sustainability Reporting (GRI and UN Global GRI, UN Global Compact, 2018). Similarly, a framework was also proposed for contributing to the SDGs based on the integrated reporting (Adams, 2017). In all these frameworks, common steps are the identification of priority/material aspects related to SDGs, the integration in the management system and the reporting phase.

Despite the above-mentioned frameworks to operationalize SDGs at company level, the research on how companies communicate their contribution to SDGs has not been thoroughly explored (García-Meca and Martínez-Ferrero, 2021; Lopez, 2020), neither the commitment nor the integration of SDGs in corporate reporting (Heras-Saizarbitoria *et al.*, 2022), which will be empirically addressed in this study.

From a theoretical point of view, the previous study of Santos and Bastos (2021) highlight three corporate management approaches for integrating the SDGs. From a normative perspective, the integration of SDGs takes place at two levels: in terms of values, cultures and the role of leaders and in terms of engagement with the stakeholders. From an operational perspective, it is important the instruments that contribute to the implementation of sustainability like company targets, performance measurements or reporting indicators. Finally, focusing on strategy, the companies should consistently integrate sustainability in their core strategy and to consider it as a key factor for creating value and competitive advantages (Moneva *et al.*, 2007). Although these approaches have been explored in an isolated way, more empirical evidence about the connection of the three perspectives (normative, operational and strategic) is necessary to better understand whether the companies are doing a comprehensive integration of the SDGs.

Contextual factors may generate pressures or incentives to integrate the SDGs in their area of influence (Santos and Bastos, 2021). Accordingly, previous research has achieved a consensus that those factors that impact sustainable development vary over time and geographical areas, among others (Borin de Oliveira Claro and Ramajo Esteves, 2021). Therefore, this study has been limited to a specific Spanish region, i.e. the Valencian Region. This is a region with the same culture, language and with the same regulatory framework. There are several studies on the implementation of the SDGs in Spanish companies in other regions of Spain. Specifically, the Madrid Business Confederation, with the collaboration of the Club for Excellence in Sustainability and Ernst and Young (EY) (2020), prepared a questionnaire to study the state of implementation of the SDGs in companies from Madrid. In the same vein, the Observatory of ODS (ESADE, 2020) focuses on its third report on the contribution of Spanish companies to the SDGs. However, in the Valencian Region, there is a very limited number of studies on the implementation of SDG in businesses. Up to now there is only one descriptive study entitled "The SDGs and the private sector: Opportunities for action in the Valencian Community" published by Generalitat Valenciana (2019) which was carried out by Red2Red Consultants supported by the Ministry of Transparency. This report highlights that 75% of companies know the initiative of SDGs, although 50% do not recognize precise knowledge about them. The companies surveyed recognize a close

relationship between SDGs and the core business, given the high degree of connection between the main activity of the company and the SDGs. Nonetheless, no studies have been published in this area regarding the consistent integration of the SDGs in the sustainability management and reporting.

Accordingly, to fill the existing research gaps, this study aims to better understand the integration of SDGs in corporate reporting and the linked management systems of companies that are leaders in sustainability. Therefore, the research questions that guide the development of this study are the following:

- RQ1.* Are the sustainability leader companies reflecting a sound commitment regarding their contribution to SDGs in their sustainability reporting (normative focus)?
- RQ2.* Are SDGs been consistently integrated in the reporting and management systems by the sustainability leader companies (operational and strategic focus)?

If the answer to *RQ1* is affirmative but not the answer to *RQ2*, it will evidence the merely symbolic presence of SDG reporting and management, having risks of “Rainbow washing”. On the opposite, if the answer to *RQ2* is affirmative and this is not the case of the answer to *RQ1*, there is a risk of inconsistency and weakness in the real integration of SDG in the core of the company with a long-term perspective. Affirmative answers in both cases will indicate a consistent strategic position toward SDG management and reporting, including a strong commitment to sustainability and also consistent integration of SDGs in the company’s management system.

### 3. Methodology and sample

This study presents an exploratory analysis on the degree of SDG commitment and SDG integration in sustainability reporting of Valencian companies that are leaders in sustainability. For that end, the study analyzes the information offered by companies on their corporate websites as a source of public, accessible and objective data. Specifically, this study applied a content analysis procedure. Content analysis is a research method used for interpreting data according to their context in an objective and rigorous way (Krippendorff, 1980). Content analysis methodology has been broadly applied in the context of sustainability reporting analysis (Manes-Rossi and Nicolo’, 2022).

The content analysis was conducted following a systematic process (Silva, 2021; Manes-Rossi and Nicolo’, 2022). First, this study selected the source of information. In this regard, this study collected the data from sustainability reports, integrated reports and corporate webs. The unit of analysis were themes, illustrations and infographics related to SDGs.

Second, this study defined an analytical framework of the commitment and integration of the SDGs in corporate sustainability reports, which was used as a scheme to codify the content. The selection of the variables of the proposed framework were based on the main international standards and guidelines for operationalizing the SDGs at the enterprise level (GRI *et al.*, 2015; GRI, UN Global Compact, 2018; Adams, 2017), as well as, on academic studies focused on analyzing how substantive is the commitment of companies to contribute to the SDGs through sustainability reports (Schramade, 2017; Izzo *et al.*, 2020; Van der Waal and Thijssens, 2020). Note that it is important to develop the categorization framework (see Table 1) from well-established standards and literature, since it must be rigorous, objective and relevant to answer the research questions (Manes-Rossi and Nicolo’, 2022).

Third, the step regarding the analysis and interpretation was carried out in November 2021 following Roman *et al.* (1999) process. Contents were analyzed by two of the authors and they compared the results after the extraction. In case of dissent, a third author entered into the process to decide the final classification.

The proposed framework to analyze the level of commitment and integration of the SDGs in the corporate sustainability reporting, consists of two variables and seven indicators, which are displayed in [Table 1](#).

The first variable is focused on the commitment to the SDGs at the highest decision-making level. To integrate the SDGs into corporate strategy, the first requirement is that the top management makes explicit their commitment to sustainability and the SDGs. In this way, a message is communicated to the rest of the internal and external groups about the relevance that the SDGs represent for the organization and about their willingness to integrate them into the management system. For this end, this study analyzes whether the initial letter from the board chairman/CEO included in the report explicitly mentions the “2030 Agenda” or the “SDGs”, and whether it is signed by the board chairman/CEO which is understood as a higher level of commitment. This study will answer the [RQ1](#).

The second variable refers to the SDG integration in the corporate sustainability reporting and includes five dimensions: the company’s own perception, though the explicit SDGs contribution information related to its business model, the inclusion of SDGs in the materiality analysis, and the SDG deployment along management elements: targets, actions and performance indicators.

Given the nature of the data, these five dimensions were aggregated using fuzzy inference systems related to fuzzy set theory ([Zadeh, 1965](#)). The fuzzy logic methodology is especially suitable for measuring complex concepts, for aggregation scores and for integrating expert knowledge ([Rivera-Lirio and Muñoz-Torres, 2010](#); [Escrig-Olmedo, E. et al., 2014](#)). Additionally, the unavailability of a long series information is not an obstacle for its application ([Muñoz et al., 2008](#)).

The fuzzy inference system used is Mamdani type ([Mamdani, 1974](#)). Applying fuzzy maths [\[1\]](#), the information obtained regarding the percentage of companies that considers each SDG in their contribution to sustainability, their materiality analysis, actions and KPIs definition, was transformed into linguistic terms by using membership functions (triangular in this case), e.g. “Weak SDG consideration in the materiality analysis”. In the next step, it was necessary to design the so-called fuzzy inference rules, IF–THEN type. Following [Kouikoglou and Phillis \(2011\)](#), the set of inference rules and the consequent outputs, had been defined in such a way that contributes to giving the same importance to the five studied variables and their management and reflected the fact that whenever an input indicator was improved, the overall integration level was also improved. Consequently, 3<sup>5</sup> IF–THEN rules were defined, mapping inputs with eleven outputs. The fuzzy sets related to the outputs varies from *extremely weak* (EW) to *extremely high* (EH). As an example, “IF contribution is WEAK, materiality is WEAK, action is WEAK, target is WEAK and KPIs is WEAK, THEN SDG Integration is EXTREMELY WEAK”. Finally, this fuzzy output was transformed into crisp number between 0 and 1 applying the centroid as defuzzification method ([Jain and Singh, 2020](#)).

Variables	Dimensions
Commitment to the SDGs	<ol style="list-style-type: none"> <li>1. Is the 2030 Agenda or the SDGs included explicitly in the initial statement from the chair or CEO?</li> <li>2. Is the initial statement with the 2030 Agenda or SDGs information signed by the chair or CEO?</li> </ol>
SDG integration	<ol style="list-style-type: none"> <li>3. SDGs identified by the companies in which they expect to contribute to</li> <li>4. SDGs included in the materiality analysis</li> <li>5. SDGs related to targets</li> <li>6. SDGs related to actions</li> <li>7. SDGs related to KPIs</li> </ol>

**Source(s):** Authors work

**Table 1.** Proposed variables and dimensions to analyze the commitment and integration of SDGs in sustainability reporting

In addition, this study calculated the correlation coefficients with the aim of enriching the consistency analysis between the above-mentioned variables regarding the level of integration. Both analyses will answer the RQ2.

The sample of this study is focused on a specific region with the aim of controlling external factors that can affect the integration of sustainable development issues into business strategies (Borin de Oliveira Claro and Ramajo Esteves, 2021). This study has been carried out analyzing Spanish companies with their headquarters in the Valencian Region, since they are subjected to the same regulatory context, with a high degree of commitment to sustainability in the public information and with an explicit reference to the SDGs in their CSR/sustainability reports, integrated reports or corporate websites. Moreover, this region offers an enabling environment to contribute to SDGs since these goals guide all public policies at regional level (UNDP, 2016). With the aim of selecting the benchmark companies in sustainability in the Valencian Region, this study first, selected the initial sample, consisted of those Valencian companies that are members of business clubs or foundations that promote corporate responsibility and sustainability (such as the CE/R + S of the Valencian Community or Fundación Ètnor). In addition, the sample was extended with Valencian awarded companies in sustainability terms (e.g. Sustainable design by Global Fashion Awards; National Award for Excellent, Innovative and Sustainable Management, or Go! SDGs). In total, 40 Valencian companies, with public information on sustainability, were identified. Subsequently, the corporate websites of the 40 companies were reviewed in detail. Those companies that showed their commitment to the SDGs in an accessible way and to the three dimensions of sustainability were selected. Those companies that adopt a narrow approach to the sustainability, referring only to the ethic, gender or the environmental issues were not considered. The final sample consists of 20 companies which are included in Table 2.

The companies analyzed belong to a broad range of sectors. The sector most represented is “Consumer Goods” (25%), which are basically companies from the agri-food industry, followed by the “Consulting services and business creation’ sector (15%). Regarding the size of the companies included in the sample, 90% has more than 50 workers. Focusing on the type

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Company name (Corporate web page)

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Aguas de Valencia Global Omnium (<https://www.aguasdevalencia.es/Grupo/Inicio/>)

Anecoop (<https://anecoop.com/>)

Balearia (<https://www.balearia.com/>)

Bertolín Grupo (<https://www.grupobertolin.es>)

Caixa Bank (<https://www.caixabank.com>)

Caixa Popular (<https://www.caixapopular.es/es>)

Choví (<https://www.chovi.com/es/>)

Consum (<https://www.consum.es/>)

Ètica (<https://etica.site/>)

Foodiverse (<https://foodiverse.com>)

Grupo Sorolla Educación ([www.rs.gruposorolla.es](http://www.rs.gruposorolla.es))

Hidraqua (<https://www.hidraqua.es>)

Hinojosa Packaging Solutions (<https://grupohinijhosa.com>)

Ivirma Global (<https://www.ivirma.com>)

Jeanología (<https://www.jeanologia.com/es/>)

Mercadona (<https://info.mercadona.es/es/inicio>)

Triangle Real Estate Management ([www.trianglerem.com](http://www.trianglerem.com))

Unión de Mutuas (<https://www.uniondemutuas.es/es/inicio/>)

Vicky Foods ([www.vickyfoods.es](http://www.vickyfoods.es))

Zubilabs ([www.zubilabs.com](http://www.zubilabs.com))

**Source(s):** Authors work

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**Table 2.**  
Companies analyzed  
according to their  
public information

of companies, 15% of the sample are cooperatives and the rest are Public or Private Limited Liability Companies.

This study structures the analysis of the commitment and integration of each SDG in the corporate reporting of each company, also considering the belonging of the different SDGs to the prosperity, people, planet, peace and partnership pillars. According to the classification made by the [United Nations \(2015\)](#) and [OECD Organization for Economic Co-operation and Development \(OECD\) \(2017\)](#) where from the slogan “Transforming our world”, it relates the five pillars, “the 5 P’s” of sustainable development with the SDGs, which are considered as “integrated and indivisible, with a global nature and a universal application”. The 17 SDGs can be categorized into five P’s to better assess the 17 goals. The International Monetary Fund also follows this classification on its website ([www.imf.org/en/Topics/SDG](http://www.imf.org/en/Topics/SDG)) and by the Public Administration of the Valencian Region in a monitoring map to evaluate the implementation of the SDG in this region. The inclusion of this perspective in the analysis will give more information regarding the approach adopted by the sustainability leaders in their SDG management.

## 4. Results and discussion

### 4.1 SDG commitment

With the aim of supporting the transition to sustainability, it is essential that all corporate organizational levels share the sustainability foundations, and specially, it is important that the highest decision-making level convey from top to down the sustainable business model. For this reason, it is crucial that the executive managers and board of directors commit to the sustainable organizational culture and SDGs in a formal way (RQ1).

This aspect has been addressed with the first indicator “Is the 2030 Agenda’ or ‘the SDGs’ included explicitly in the initial statement from the chair or CEO?” The results reveal that only 35% of the companies in the sample explicitly mention the 2030 Agenda or the SDGs in the initial reporting statement written by the chair or CEO.

Focusing on these initial statements, this study observes three different degrees of SDG commitment. On the one hand, there are companies that consider the SDGs as an initiative at macro level that the company should address to contribute to sustainability. On the other hand, another group of companies understand the SDGs as a framework for action, without specifying how they should be operationalized; and there is a third group where an integration of the SDGs in the main management elements of the organization is observed.

Regarding the second indicator, i.e. whether the initial statement where the SDGs commitment is expressed includes the signatory of the chair or CEO, this study has not found any initial statement with this characteristic.

Therefore, although this study finds a small number of companies with a commitment to SDGs in the initial statements of the reporting, none of the companies have signed the statement. This result shows that there is room for improvement regarding the degree of formality of the SDG commitment at the highest decision-making level.

### 4.2 SDG integration in sustainability reporting

[Table 3](#) presents the analysis of the SDGs according to their position considering the integration score. They have been differentiated by considering the five pillars.

The range of the integration score varies from 0 to 1, however, none of the SDGs presents integration scores that arrives to 0.5 ([Figure 1](#)). This low score could be explained due to the scarce number of companies that carry out materiality analysis regarding the relevance of SDGs for their business, and their operationalization with SDG-related targets and KPIs. That shows the room for improvement in the SDGs management in the analyzed companies, even considering the most advanced ones in sustainability terms.

Ranking	SDG	Contribution	Materiality	Targets	Actions	KPIS
1	Prosperity-SDG 8	90%	25%	20%	75%	10%
2	Prosperity-SDG 9	90%	25%	15%	70%	5%
3	Planet-SDG 12	80%	20%	25%	65%	10%
4	People-SDG 3	85%	25%	10%	55%	10%
5	People-SDG 4	65%	15%	15%	60%	10%
6	Planet-SDG 13	75%	20%	15%	60%	5%
7	Prosperity-SDG 10	65%	20%	5%	65%	10%
8	People-SDG 5	70%	25%	0%	60%	10%
9	Prosperity-SDG 11	60%	15%	5%	55%	5%
10	Planet-SDG 6	55%	15%	15%	50%	5%
11	Partnership-SDG 17	55%	5%	15%	55%	0%
12	Prosperity-SDG 7	55%	15%	10%	45%	5%
13	People-SDG 1	45%	10%	15%	50%	10%
14	Planet-SDG 15	40%	10%	10%	40%	5%
15	Peace-SDG 16	45%	15%	0%	40%	10%
16	People-SDG 2	35%	5%	10%	30%	5%
17	Planet-SDG14	30%	0%	5%	25%	5%

**Note(s):** The percentage means the proportion of companies that consider a specific SDG in the respective integration variable

**Source(s):** Authors work

**Table 3.**  
SDGs according to  
their position  
considering the  
integration score

Analyzing the ranking of the SDGs by integration score, it can be seen as the first positions are occupied by two SDGs belonging to the prosperity pillar, “Decent work and economic growth” (SDG8) and “Industry, Innovation and Infrastructure” (SDG9). In both SDGs, companies show the strongest public commitment with numerous related actions. The most companies associate SDG8 with direct business practices, like the improvement of working conditions, talent management and job creation, and SDG9 with the promotion of investment in research, development and innovation solutions that aims to minimize their impacts. That implies the need to promote companies aware about their impacts on sustainability issues that are beyond their indoor business activity.

These higher positions are shared by the SDG12, “Responsible Consumption and Production”, included in the planet pillar. This SDG12 is linked to circular economy practices and to the sustainable management of the supply chain. Despite the relevance of environmental dimension in the traditional materialization of sustainability management practices, the rest of the SDGs that compounds the planet pillar are disseminated along the ranking. “Clean Water and Sanitation” (SDG6), is in the 10th position, “Life on land”, in the 14th position, and “Life below Water” in the last position. Despite the location of analyzed companies in a Mediterranean region, with relevant risks and problems associated to water scarcity, land use and environmental damages on this sea life, companies do not associate these SDGs with their activity. Consequently, these SDGs have a very scarce presence in their materiality analysis, definition of targets and KPIS.

People pillar includes the SDG 1, 2, 3, 4 and 5. Results present a high dispersion in the position they have regarding the integration score. “Good Health and Wellbeing” (SDG3) and “Quality Education” (SDG4) have the highest score. Companies justify the relative relevance of SDG3 with occupational health and safety and working environment issues. Specifically, companies mention actions aim to foster healthy lifestyles, prevention, healthy eating habits and sport.

About SDG4, companies identify this goal with training programs and collaboration with educational institutions, mainly measured in terms of training hours, number of attendees and in euros allocated to the training programs. Again, predominates an internal perspective



**Figure 1.**  
SDG Integration Score

**Source(s):** Authors work

of business impacts, without considering the potential contribution of companies to SDGs beyond their boundaries.

SDG5 (“Gender Equality”) can also be mentioned because it occupies an intermediate position in the integration ranking, showing a substantial unbalance between the clear commitment that companies declare with gender equality and empowerment of women aspects and their related specific targets. None of the companies establish a SDG5-related target.

Partnership pillar covers the SDG17 “Partnership for the goals”, which basically refers to alliances and partnerships to promote sustainable development. The most common alliances are signed with suppliers, customers, academia and other social organizations in development projects. In this case, it is positioned in the eleventh place, indicating the relatively low integration of this goal in companies’ SDGs management. This position is originated by the unbalance between companies’ consideration of their contribution to this SDG and -related actions, on the one side, and the scarce or null presence in the materiality analysis, targets and KPIs on the other side. This SDG has a cross-cutting nature, and it is difficult to establish concrete indicators at the business level. In fact, none of the companies analyzed published indicators directly related to measure the contribution to SDG17.

Finally, Peace pillar includes the SDG16 “Peace, Justice and Strong Institutions”. Companies relate this goal with aspects of corporate governance, transparency,

accountability, participation of stakeholders in decision-making, access to justice and mechanisms against bribery and corruption. Surprisingly, it is one of the less integrated SDG by the corporate sustainability leaders. Important issues as the existence of a code of ethics and conduct, ethics and integrity policies, due diligence processes, human rights evaluation, anti-corruption policies, grievances mechanisms, a compliance model and practices focus on enhancing the transparency and accountability to stakeholders, are far from being holistically implemented in SDG management. In fact, none of the companies show a clear SDG-related target and only 10% of companies have published measurable indicators such as the number of complaints or people in training on compliance.

In parallel, this study has calculated the correlation matrix of the five variables to test the consistency in their integration in companies. Table 4 displays the results of the correlation coefficients. The results reveal, on the one hand, a small percentage of companies that consider the SDGs in the materiality analysis and the contribution to the SDGs. On the other hand, this study highlights that targets do not present any relationship with contribution, materiality, actions and KPIs. KPIs only show a slightly relationship with the materiality analysis. These results are consistent with the previous analysis and find a lack of consistency between key management elements like targets and KPI with the rest of management practices. This suggests that SDGs have been implemented without the adoption of a strategic and operative approach (RQ2).

## 5. Conclusions

This study explores the soundness of the commitment that sustainability leader companies have regarding their contribution to SDGs, and the consistency in their integration within their management system. For that end, this study has examined the sustainability reported information of 40 companies located in a Spanish region with the same culture, language and within the same regulatory framework and finally has made an SDG content analysis of 20 of them. In advance, these companies had been identified as the leaders in sustainability management in the region.

On the one hand, the commitment to the SDGs has been analyzed exploring whether the initial letter from the board chairman/CEO included in the report explicitly mentions the 2030 Agenda or the SDGs, how it is addressed and whether it is formally signed at the highest decision-making level. On the other hand, the SDG integration in the corporate management has been examined by means of the definition of an integration score, based on the design of a fuzzy inference system, equally considering five selected domains: company's own perception regarding its contribution to SDGs; SDGs inclusion in materiality analysis; and SDGs deployment along management elements (targets, actions and performance indicators). The empirical analysis has been structured according to the classification made by the "the 5 P's" of sustainable development.

Regarding RQ1, the findings show that only 35% of the companies in the sample explicitly mention the 2030 Agenda or the SDGs in the initial statement of the reporting and none of

Indicator	Contribution	Materiality	Targets	Actions	KPIs
Contribution	1.0000				
Materiality	0.8952***	1.0000			
Targets	0.4335	0.1367	1.0000		
Actions	0.9056***	0.8059***	0.4548	1.0000	
KPIs	0.3329	0.5379*	-0.0485	0.3304	1.0000

**Note(s):** The table shows the Pearson's pair-wise correlation matrix

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$

**Table 4.** Correlation matrix of the different variables of SDG integration

them have signed the statement, which means a lack of formality regarding the SDG commitment at the highest companies' decision-making level. It implies a scarce adoption of a normative approach, where the leader's role is key for a real commitment of the organization that can be transmitted both internally and externally. This commitment would act as umbrella for a real involvement of the organization in SDGs deployment. Its absence calls the soundness of this involvement into question.

Focusing on the SDG integration in the reporting and management systems (RQ2), the analyzed companies show inconsistencies in their operational and strategic approach toward SDG deployment. In fact, the higher integration score obtained is 0.44, defined theoretically between a range from 0 to 1. In terms of pillars, the analysis does not show any predominant pillar considering all the SDGs. The most integrated SDGs are associated to the prosperity pillar (SDG 8 and 9), to the planet pillar (SDG 12), and to the people pillar (SDG 3 and 4). Partnership and peace pillars present a lower integration, being located respectively in intermediate and latter positions.

Despite these leader companies declare being close to certain SDGs, it is not reflected in an associated materiality analysis, targets or KPIs definition. This result is aligned with a symbolic approach in the SDG integration, since this own perception regarding the closeness to certain SDGs is not materialized in more tangible and operative management structures.

The findings of this study should be viewed considering potential limitations. On the one hand, the empirical analysis is conditioned by the sample and the availability of information. Large samples that include other regions are clearly needed to test the robustness of the results. On the other hand, several difficulties have been identified regarding the detail, access and possible comparison of the information, in the development of this study. In particular, the companies include the different information on sustainability under various items, such as "CSR", "Commitment" or "Let's take care of the Planet". In addition, the level of accessibility of this information is also very diverse. Furthermore, due to lack of more recent information constraint, the reports analyzed do not correspond to the same year, although the majority correspond to the year 2020, there are two that correspond to 2019 and one to 2018. This fact difficulties comparability and highlights the existence of a delay between the possible actions that the companies are implementing and what they are reporting. The way used for communicating their commitments to the SDGs are also varied and different. Some companies include them in a generic section, others have a specific section on their website or use different sections connected with sustainability aspects, and there is another group of companies that use Sustainability/CSR reports, being the GRI standard the most common.

### *5.1 Managerial implications*

This study has important implications for both business practice and public policy. First, the results of this study show the necessity of adopting a corporate governance system committed to sustainability. This commitment should be done by means of a clear support of the 2030 Agenda, avoiding cosmetic strategies or SDG washing. To create the foundations of a consistent SDG integration, the commitment to sustainability and its integration into the strategy should be communicated through a formal statement from the highest corporate responsibility positions. Accordingly, the strategy must be aligned with the 17 SDGs, with a materiality analysis and developed through a whole roadmap, to ensure their consistent contribution through the definition of corporate targets, actions and indicators.

Second, the results of this study contrast with the era of EU regulations (e.g. [The European Parliament and the Council of the European Union, 2019](#) and [2022](#)) to improve transparency to the financial market and the quality of sustainability reporting. The voluntary basis and soft institutional pressure until now have not been enough to guide companies toward a substantive SDG integration. Placing sustainability and the SDGs at the core of EU policies

needs that policy makers at supranational, national and regional level provide resources, means and controls to ensure that the sustainability reporting is at the same level as financial one. For that, policy makers should join efforts for creating a homogeneous and comparable reporting methodology as well as to guarantee an independent assurance process of sustainability information. The SDG reporting is an even greater challenge at company level. Basic questions such as companies' contribution, prioritization, measurements and reporting require less flexible, more rigorous and with sufficient guarantees processes that lead companies to do and show a real contribution to the sustainable development.

In this context, this study also highlights the scarcity of accessible data and the difficulty of comparing the information related to the SDGs published by Valencian companies. Under this situation, policy for development, as an underlying matter in the rest of the policies, should speed up and redirect the SDG journey. The development concerns and opportunities should be integrated into an institutional action plan to support the quality and integrity of the information that companies report. As concrete examples, public bodies could provide advanced common framework of targets and indicators at corporate level that translates from a scientific base the global targets and indicators of the UN at company level. In this way, the SDG-related targets to guide the corporate practices and the progress indicators that must be measured to monitor their real contribution should be unified.

### *5.2 Theoretical implications*

From a theoretical point of view this paper has identified a gap between those companies that are considered as sustainability leaders and the level of commitment to translate the SDGs into the business strategies and activities. In this context, one question arise, why then are these companies considered as leaders in the sustainability field? These companies are positioned as leaders by the market because of their public commitment toward sustainability, transparency or stakeholders' engagement, among others. Results suggest that despite this positioning, which could be considered as "the best in class", these companies are in a transition process to adapt their sustainability management system to the framework that SDGs provides and the main international standards for operationalizing them. They usually connect their current management structures with the corresponding SDG, but only superficially, as an statement of intent, without a real integration. The risk, in this case, is to disconnect the sustainability of the organization from the sustainability of the society as a whole. Future studies could deeply explore research questions as: Are there significant differences in the SDG integration between corporate sustainability leaders and followers? Could we find evidence of a real progress in terms of corporate actions to achieve SDGs? How could the companies ensure the information that they report about SDGs?

Therefore, this study opens new lines to work in the promotion of an effective business reporting of sustainability within the framework of the SDGs based on a robust management structure that allows an alignment among the business decisions and the sustainable development from a normative, strategic and operational approach.

### **Note**

1. Supplementary materials for the MATLAB commands used are available upon request to authors

### **References**

- Adams, C. (2017), "The Sustainable Development Goals, integrated thinking and the integrated report", available at: <https://integratedreporting.org/resource/sdgs-integrated-thinking-and-the-integrated-report/> (accessed 1 Marzo 2022).

- Avrampou, A., Skouloudis, A., Iliopoulos, G. and Khan, N. (2019), "Advancing the sustainable development goals: evidence from leading European banks", *Sustainable Development*, Vol. 27 No. 4, pp. 743-757.
- Bebbington, J. and Unerman, J. (2018), "Achieving the United Nations sustainable development goals", *Accounting, Auditing and Accountability Journal*, Vol. 31 No. 1, pp. 2-24.
- Borin de Oliveira Claro, P. and Ramajo Esteves, N. (2021), "Sustainability-oriented strategy and sustainable development goals", *Marketing Intelligence and Planning*, Vol. 39 No. 4, pp. 613-630.
- Consolandi, C., Phadke, H., Hawley, J. and Eccles, R.G. (2020), "Material ESG outcomes and SDG externalities: evaluating the health care sector's contribution to the SDGs", *Organization and Environment*, Vol. 33 No. 4, pp. 511-533.
- Esade (2020), *La contribución de las empresas españolas a los objetivos de desarrollo Sostenible. Tercer informe*. Observatorio de los ODS, available at: <https://transcendent.es/la-contribucion-de-las-empresas-espanolas-a-los-objetivos-de-desarrollo-sostenible/> (accessed 1 March 2022)
- Escrig-Olmedo, E., Muñoz-Torres, M.J., Fernández-Izquierdo, M.Á. and Rivera-Lirio, J.M. (2014), "Lights and shadows on sustainability rating scoring", *Review of Managerial Science*, Vol. 8, pp. 559-574.
- EY (2020), "Cuestionario para el estudio del estado de la implantación de los ODS en la empresa madrileña", available at: <http://responsabilidadimas.org/emailings/invitaciones/ObsODS/ObsODS.html> (accessed 1 March 2022).
- Freeman, R.E. (1984), *Strategic Management: A Stakeholder Approach*: Pitman Publishing, Boston.
- García-Meca, E. and Martínez-Ferrero, J. (2021), "Is SDG reporting substantial or symbolic? An examination of controversial and environmentally sensitive industries", *Journal of Cleaner Production*, Vol. 298, 126781.
- GRI, UN Global Compact, WBCSD (2015), "SDG Compass: the guide for business action on the SDGs", available at: <https://sdgcompass.org> (accessed 1 March 2022).
- GRI, UN Global Compact, WBCSD (2020), "Linking the SDGs and the GRI standards", available at: <https://sdghub.com/project/linking-the-sdgs-and-the-gri-standards/> (accessed 1 March 2022).
- GRI, UN Global Compact (2018), "Integrating the sustainable development goals into corporate reporting: a practical guide", available at: <https://www.unglobalcompact.org/library/5628> (accessed 26 May 2022).
- Heras-Saizarbitoria, I., Urbieto, L. and Boiral, O. (2022), "Organizations' engagement with sustainable development goals: from cherry-picking to SDG-washing?", *Corporate Social Responsibility and Environmental Management*, Vol. 29 No. 2, pp. 316-328.
- Izzo, M.F., Ciaburri, M. and Tiscini, R. (2020), "The challenge of sustainable development goal reporting: the first evidence from Italian listed companies", *Sustainability*, Vol. 12 No. 8, p. 3494.
- Jain, N. and Singh, A.R. (2020), "Sustainable supplier selection under must-be criteria through Fuzzy inference system", *Journal of Cleaner Production*, Vol. 248, 119275.
- Kouikoglou, V.S. and Phillis, Y.A. (2011), "Application of a fuzzy hierarchical model to the assessment of corporate social and environmental sustainability", *Corporate Social Responsibility and Environmental Management*, Vol. 18 No. 4, pp. 209-219.
- Krippendorff, K. (1980), *Krippendorff, Klaus, Content Analysis: an Introduction to its Methodology*, Sage.
- Leary, M.R. and Kowalski, R.M. (1990), "Impression management: a literature review and two-component model", *Psychological Bulletin*, Vol. 107 No. 1, p. 34.
- Lopez, B. (2020), "Connecting business and sustainable development goals in Spain", *Marketing Intelligence and Planning*, Vol. 38 No. 5, pp. 573-585.
- Mamdani, E.H. (1974), "Application of fuzzy algorithms for control of simple dynamic plant", *Proceedings of the Institution of Electrical Engineers*, Vol. 121, p. 1585, doi: [10.1049/piee.1974.0328](https://doi.org/10.1049/piee.1974.0328).

- Manes-Rossi, F. and Nicolo', G. (2022), "Exploring sustainable development goals reporting practices: from symbolic to substantive approaches—evidence from the energy sector", *Corporate Social Responsibility and Environmental Management*, Vol. 29 No. 5, pp. 1799-1815.
- Mhlanga, R., Gneiting, U. and Agarwal, N. (2018), *Walking the Talk: Assessing Companies' Progress from SDG Rhetoric to Action*, Oxfam Discussion Papers.
- Moneva, J.M., Rivera-Lirio, J.M. and Muñoz-Torres, M.J. (2007), "The corporate stakeholder commitment and social and financial performance", *Industrial Management and Data Systems*, Vol. 107 No. 1, pp. 84-102.
- Muñoz, M.J., Rivera, J.M. and Moneva, J.M. (2008), "Evaluating sustainability in organisations with a fuzzy logic approach", *Industrial Management and Data Systems*, Vol. 108 No. 6, pp. 829-841.
- Organization for Economic Co-operation and Development, OECD (2017), "Measuring distance to the SDG targets—an assessment of where OECD countries stand", available at: <https://www.oecd.org/economy/measuring-distance-to-the-sdg-targets-2017-9789264308183-en.htm> (accessed 1 March 2022).
- PWC (2018), "SDG Reporting Challenge 2018. From promise to reality: does business really care about the SDGs?", available at: <https://www.pwc.com/gx/en/sustainability/SDG/sdg-reporting-2018.pdf> (accessed 26 May 2022).
- Rivera-Lirio, J.M. and Muñoz-Torres, M.J. (2010), "The effectiveness of the public support policies for the European industry financing as a contribution to sustainable development", *Journal of Business Ethics*, Vol. 94, pp. 489-515.
- Roman, R.M., Haybor, S. and Agle, B.R. (1999), "The relationship between social and financial performance", *Business and Society*, Vol. 38 No. 1, pp. 109-125.
- Rosati, F. and Faria, L.G. (2019), "Addressing the SDGs in sustainability reports: the relationship with institutional factors", *Journal of Cleaner Production*, Vol. 215, pp. 1312-1326.
- Santos, M.J. and Bastos, C.S. (2021), "The adoption of sustainable development goals by large Portuguese companies", *Social Responsibility Journal*, Vol. 17 No. 8, pp. 1079-1099.
- Schramade, W. (2017), "Investing in the UN sustainable development goals: opportunities for companies and investors", *Journal of Applied Corporate Finance*, Vol. 29 No. 2, pp. 87-99.
- Silva, S. (2021), "Corporate contributions to the Sustainable Development Goals: an empirical analysis informed by legitimacy theory", *Journal of Cleaner Production*, Vol. 292, 125962.
- The European Parliament and the Council of the European Union (2019), "Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector", available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R2088> (accessed 24 February 2023).
- The European Parliament and the Council of the European Union (2022), "Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending regulation (EU) No 537/2014, directive 2004/109/EC, directive 2006/43/EC and directive 2013/34/EU, as regards corporate sustainability reporting", available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022L2464> (accessed 24 February 2023).
- UNDP (2016), "The region of Valencia and the local implementation of the SDGs: a region committed to cooperation and the 2030 agenda for sustainable development. Generalitat valenciana, conselleria de Transparència, responsabilitat social, participació i cooperació", available at: [https://www.gold.uclg.org/sites/default/files/Valencia%20Region%20\(2016\).pdf](https://www.gold.uclg.org/sites/default/files/Valencia%20Region%20(2016).pdf) (accessed 8 July 2022).
- United Nations (UN) (2015), "Transforming our world: the 2030 Agenda for sustainable development. Resolution adopted by the General Assembly on 25 September 2015", available at: [https://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=S](https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=S) (accessed 27 May 2022).
- Valenciana, G. (2019), "Los ODS y el sector privado: oportunidades de acción en la Comunitat Valenciana", available at: [https://cooperaciovalenciana.gva.es/documents/164015995/167349164/ODS+y+Sector+privado+Informe+extens\\_CAST\\_11+enero.pdf/e089564d-47aa-40e4-b536-3339e5269267](https://cooperaciovalenciana.gva.es/documents/164015995/167349164/ODS+y+Sector+privado+Informe+extens_CAST_11+enero.pdf/e089564d-47aa-40e4-b536-3339e5269267) (accessed 1 March 2022).

- Van der Waal, J.W. and Thijssens, T. (2020), "Corporate involvement in sustainable development goals: exploring the territory", *Journal of Cleaner Production*, Vol. 252, 119625.
- Vildåsen, S.S. (2018), "Corporate sustainability in practice: an exploratory study of the sustainable development goals (SDG s)", *Business Strategy and Development*, Vol. 1 No. 4, pp. 256-264.
- Zadeh, L.A. (1965), "Fuzzy sets", *Information and Control*, Vol. 8 No. 3, pp. 338-353.

### About the authors

Idoya Ferrero-Ferrero, PhD in Business Management (2012) from the Universitat Jaume I. Currently, she works as Senior Lecturer at the Finance and Accounting Department of the Universitat Jaume I, Spain. Her current research interest is focused on corporate governance, sustainability assessment and reporting. She has published scientific papers in high-impact international academic journals and is involved in several externally funded research projects such as Towards a New Zero Food Waste Mindset Based on Holistic Assessment (ToNoWaste) (2022-2026), funded by the EU's framework programme for research and innovation Horizon Europe. She is also a member of Sustainability of Organizations and Social Responsibility Management-Financial Markets Research Group. Idoya Ferrero-Ferrero is the corresponding author and can be contacted at: [ferrero@uji.es](mailto:ferrero@uji.es)

María Jesús Muñoz-Torres PhD in agricultural economics from the Polytechnic University of Valencia (1994). She is a Full Professor in the Department of Finance and Accounting at the Universitat Jaume I, Spain. Her research currently focuses on CSR valuation, SRI, sustainable efficiency of public financial support to companies and Sustainable Business Models. She has published scientific papers in high-impact international academic journals and is involved in several externally funded research projects such as Towards a New Zero Food Waste Mindset Based on Holistic Assessment (ToNoWaste) (2022-2026), funded by the EU's framework programme for research and innovation Horizon Europe. She is also a member of SoGReS-MF Research Group.

Juana María Rivera-Lirio, PhD in Business Management (2007) from the Universitat Jaume I. Currently, she works as Senior Lecturer at the Finance and Accounting Department of the Universitat Jaume I, Spain. Her current research interest is focused on CSR management, sustainability assessment and sustainable finance. She has published scientific papers in high-impact international academic journals and is involved in several externally funded research projects such as the Towards a New Zero Food Waste Mindset Based on Holistic Assessment (ToNoWaste) (2022-2026), funded by the EU's framework programme for research and innovation Horizon Europe. She is also a member of Sustainability of Organizations and Social Responsibility Management-Financial Markets Research Group.

Elena Escrig-Olmedo, PhD in Sustainability of the Organizations (2013) from the Universitat Jaume I. Currently, she works as Senior Lecturer at the Finance and Accounting Department of the Universitat Jaume I, Spain. Her current research interest is focused on sustainable finance, social responsible investment and corporate sustainability assessment. She has published scientific papers in high-impact international academic journals and is involved in several externally funded research projects such as Towards a New Zero Food Waste Mindset Based on Holistic Assessment (ToNoWaste) (2022-2026), funded by the EU's framework programme for research and innovation Horizon Europe. She is also a member SoGReS-MF Research Group.

María Ángeles Fernández-Izquierdo PhD in Economics from the Valencia University. She is a Full Professor in finance in the Department of Finance and Accounting at the Universitat Jaume I (Spain). Her research focuses on stock markets, CSR and sustainable finance. She has published scientific papers in high impact international academic journals. She is involved in several externally funded research projects such as Towards a New Zero Food Waste Mindset Based on Holistic Assessment (ToNoWaste) (2022-2026), funded by the EU's framework programme for research and innovation Horizon Europe. She coordinates the Sustainability of Organizations and Social Responsibility Management-Financial Markets Research Group.

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