

# **An approach to using the best-worst method for supporting sustainability reporting decision-making in SMEs**

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## **ABSTRACT**

This paper proposes a novel methodological approach to help decision-makers in SMEs evaluate and prioritize sustainability reporting (SR) standards. It can thus help SMEs to overcome some of the problems they encounter when initiating SR. In order to explore this decision in more depth, a set of decision criteria are identified, reflecting the costs and benefits that could be derived from SR adoption. The methodological approach proposed is based on the best-worst multi-criteria decision-making method, and is tested to a sample of Spanish SMEs. The results highlight the relevance of SR for the legitimacy and reputation of the firm, with GRI ranking first among the SR alternatives. This research helps strengthen the link between academia and business, by developing a tool with which firms can select a reporting standard. This is especially relevant for SMEs given their relevant role in national economies and their general failure to disclose such information.

*Keywords:* non-financial reporting; GRI; UNGC; multi-criteria decision-making; small and medium-sized enterprises.

# 1 Introduction

A growing number of firms around the world have started to report on their sustainability practices, in response to calls for greater accountability with regard to ethical, social and environmental aspects of their performance (Ernst and Young 2019; KPMG 2017). Sustainability Reporting (SR) helps organizations to reflect on and to communicate their commitment towards sustainability issues. It has become part of organizational accountability systems (Contrafatto 2014), with firms striving to offer a complete and realistic picture of their organizational activities. At the same time, SR is conceptualized as a basic element of firms' strategy, aligning society's demands for information with internal organizational practices to reduce information asymmetries.

SR is now standard corporate practice in larger firms (KPMG 2017), and small and medium-sized enterprises (SMEs) are beginning to signal their sustainability activities through reporting (Ashton, Russell, and Futch 2017). Increasing regulatory pressures have required larger firms to report sustainability information (e.g., in Europe, Directive 2014/95/EU on non-financial information). However, SR is still fairly uncharted territory in the corporate practice of SMEs (e.g. Agostini, Costa, and Bagnoli 2018; Moneva and Hernández-Pajares 2018). While there is no regulatory requirement for SMEs to report on sustainability issues, SR is becoming increasingly necessary for these firms (Arena and Azzone 2012) to overcome the challenges they face (UNGC 2017). Despite the economic relevance of SMEs, due to their weight in national economies (Brammer, Hoejmoose, and Marchant 2012; Yadav et al. 2018), the relative silence of SMEs with regard to SR is a concern. In this respect, the European Federation of Accountants and Auditors for SMEs (EFAA) (2018) has emphasized the need for SMEs to disclose sustainability information, given the considerable benefits that may accrue to them, their stakeholders and the wider public.

As mentioned above, SMEs are newcomers to the field of SR. In general, producing a sustainability report entails a decision-making process characterized by standard rules and *ad hoc* procedures (Cunliffe 2008), but a specific characteristic of SMEs in this regard is their paucity of operational tools (Agostini, Costa, and Bagnoli 2018). The different SR standards, such as the Global Reporting Initiative (GRI) and the United Nations Global Compact (UNGC) include tools that help firms (including SMEs) to produce sustainability information (Adams 2017), supporting reporting quality that will reduce information asymmetries. However, this array of standards, with several options through which firms could potentially engage in SR, can be confusing. Indeed, the literature (Chen and Bouvain 2009; Perez-Batres et al. 2012; Rasche 2009) has pointed to the need to explore the decision-making involved in the adoption of such standards and the choice between standards, assuming that SR "is a matter of decision-making at the firm-level" (Perez-Batres et al. 2012, 158). A previous study has revealed difficulties in the choice of SR standards in the largest firms (Nikolaeva and Bicho 2011). Likewise, Scagnelli, Corazza, and Cisi (2013) addressed the issue through the organizational characteristics that lead SMEs to choose an SR standard. Nevertheless, there are very few studies on the reasoning behind firms' selection (Perez-Batres et al. 2012) and much research remains to be done in this field (Fifka 2013).

Although current research on the relationship between SR and corporate performance suggests there are compelling arguments for businesses to disclose sustainability information (because of the so-called "business case" for corporate sustainability), there is a scarcity of SR appraisal methods and approaches (Weber 2008). Indeed, no previous research has proposed a methodological approach to help SMEs in their decision-making

processes related to SR. Such methods are nevertheless required to evaluate the “best” reporting standard for each firm, mainly due to the wide array of SR alternatives available to firms. Thus, the aim of this research is to propose a methodological approach to help decision-makers in SMEs to select the “optimal” SR standard, taking into account a complete set of decision criteria (i.e. benefits and costs) involved in the process. This approach, based on the recently developed Best-Worst method (BWM), a multi-criteria decision-making (MCDM) technique (Rezaei 2015, 2016), generates the weights of the decision criteria, in order to prioritize the SR alternatives (in our case, GRI, UNGC and a non-standardized sustainability report—NSSR). The proposed methodological approach was discussed among a panel of academic and professional experts to validate it, before being empirically tested in a set of Spanish SMEs. It should be noted that the methodological design that is proposed could be perfectly well adapted to large firms provided that the criteria, i.e. benefits and costs, and the SR alternatives used in the analysis are adjusted to large firms. The choice of the Spanish context is motivated by the fact that Spanish SMEs have been actively developing SR practices over the past two decades (Husillos and Álvarez-Gil 2008; Husillos, Larrinaga, and Álvarez-Gil 2011; Moneva and Hernández-Pajares 2018). Specifically, Spain is the country that has devoted the greatest effort to following the GRI and the UNGC (Dasí Coscollar, Dolz Dolz, and Linares-Navarro 2015; Gallén Ortiz and Giner Inchausti 2014).

An engagement approach to those implementing SR could have practical implications for the effectiveness of SR. Hence, in this paper we shed some light on SMEs’ dilemma when it comes to choosing SR standards, as “SMEs face greater challenges in both implementing and reporting on their sustainability strategies” (UNGC 2017, 77). The low level of “practical support”, together with other issues such as “low economic returns, lack of mandatory compliance with legislation, limited financial support” are the main issues faced by SMEs that wish to report on sustainability (Agostini, Costa, and Bagnoli 2018, 1). Therefore, the main contribution of this study, framed within the context of SMEs and their implementation of SR, is to offer such firms a problem-solving technique to assist them in their decision-making processes focused on selecting the SR standard that is best suited for each firm. Moreover, this study goes some way to answering the call made by Rivera-Lirio and Muñoz-Torres (2010) to consider the nature and implications of deploying SR in SMEs.

The remainder of the paper is organized as follows. The next section lays out the theoretical dimensions of the research: first, the most common SR standards for SMEs are presented; and second, the decision criteria, i.e. costs and benefits, that are used for selecting SR standards are analyzed, based on an extensive literature review and on a discussion with a panel of experts. In Section 3, the research design is described. The empirical results of the real-world application of the methodological approach in the Spanish context are reported in Section 4. The discussion of the results and their implications are presented in Section 5 and finally, Section 6 concludes.

## **2 Literature review**

### **2.1 SR Standards**

Different SR standards have emerged and gained momentum over time (de Villiers and Sharma 2017; Eccles and Saltzman 2011), responding to a diverse range of information demands and supporting reporting quality, in order to bridge the information gap between firms and society and reduce information asymmetries. Like large firms, SMEs have started to follow the standards of international organizations in developing their SR practices (Jamali, Lund-Thomsen, and Jeppesen 2017; Tran and Jeppesen 2016), although at a slower pace.

Among the different standards, a clear distinction can be made according to the criterion of the interest group to whom the information is addressed (Greenstone 2014). Some standards have a narrow scope, being primarily aimed at reporting to investors and financial stakeholders. Within this group, we can highlight those from the International Integrated Reporting Council (IIRC), the Carbon Disclosure Project (CDP), the Dow Jones Sustainability Indices (DJSI), and the Sustainability Accounting Standards Board (SASB) (Greenstone 2014) (see table 1). However, largely due to the nature of SMEs, especially the predominant capital structure among SMEs, reporting standards focused on investors lie outside the general scope of interest for SMEs. Furthermore, there are proposals aimed at a generalist audience that includes a wide range of stakeholders (e.g. citizens, employees, governments, NGOs). In this second group, two of the most prominent standards that have facilitated SR by overcoming information asymmetry problems between SMEs and stakeholders are the GRI and the UNGC standards (Husillos, Larrinaga, and Álvarez-Gil 2011; Moneva and Hernández-Pajares 2018; Perez-Batres et al. 2012). As clear evidence of the leading role of GRI and UNGC among SMEs, we can point to their efforts to develop adaptive guidelines for SMEs (GRI 2020; UNGC 2020a), and thus formulate measures to facilitate reporting of these firms' economic, social, and environmental impacts. These valuable reporting instruments are referenced in most countries (European Commission 2013) as both researchers (e.g. Chen and Bouvain 2009; Dienes, Sassen, and Fischer 2016; Gallén Ortiz and Giner Inchausti 2014) and industry observers (KPMG 2017) have stated. Although the standards differ in detail (Rasche 2009), what they have in common is that they help firms to address stakeholder information demands (de Villiers and Sharma 2017; Eccles and Saltzman 2011; Greenstone 2014; Rasche 2009), leading to the disclosure of the sustainability performance of the firm.

[Table 1 near here]

Despite the efforts made by GRI and UNGC to encourage and facilitate the adoption of SR frameworks for SMEs, a NSSR must be taken into account as a possible alternative in the SME field. The current lack of regulation in the SME sector, together with the perception of barriers to the adoption of these SR frameworks (Arena and Azzone 2012), have led to discrepancies in the form of SME reporting (IFAC 2019) and the proliferation of NSSRs. In this context, there are still many SMEs that decide to start disclosing non-financial information through the creation of a customized template for key issues, which is not aligned with a specific reporting framework.

In what follows, a description of GRI and UNGC is presented, as these two are the predominant SR standards among SMEs.

### *2.1.1 Global Reporting Initiative (GRI)*

The main international reference for the preparation of sustainability reports is the GRI (KPMG 2017; Ordonez-Ponce and Khare 2020; Skouloudis and Evangelinos 2012), with more than 14,000 signatories worldwide (GRI 2019). The GRI provides tools to measure

corporate sustainability through a set of specific Key Performance Indicators (KPIs), as an addendum to financial reporting (Jensen and Berg 2012). Since the launch of the GRI two decades ago, it has worked on the development of a conceptual framework to provide the necessary guidelines for firms to draw up sustainability reports. The elements of this conceptual framework are designed by a dialogue platform made up of representatives of the different stakeholders.

The latest version is the GRI Sustainability Reporting Standards<sup>1</sup> (GRI Standards). This new version includes changes both in the elaboration process and in the format of the reports. In line with the previous version (GRI G4), it advocates stakeholder engagement as a tool to determine the materiality (relevance) of information.

The level of SR among SMEs is generally low, and efforts have been made to facilitate the adoption of the GRI, by supporting SMEs through the provision of specific guidance (Greenstone 2014; GRI and International Organization of Employers [IOE] 2016). As a result of these efforts, 11.2% of the signatory companies worldwide and 22.9% of the signatory companies in Spain<sup>2</sup> are SMEs.

### *2.1.2 United Nations Global Compact (UNGC)*

Another important standard recognized worldwide in SR practice is the UNGC, which has more than 10,000 signatories around the world (UNGC 2018). This standard was established in 2000 by the United Nations with the aim of providing “a universal and practical standard for all companies around the world to take a principled approach to business” (UNGC 2017, 59) and is comprised of 10 principles (2 on human rights, 4 on labor, 3 on the environment, and 1 on anti-corruption) supporting sustainable business. Membership requirements include having to prepare and to submit an annual “Communication on Progress” (COP) report.

Like GRI, UNGC is making efforts to facilitate adoption among SMEs, offering support and practical guidance (Dasí Coscollar, Dolz Dolz, and Linares-Navarro 2015). Consequently, “approximately half of UNGC signatories are SMEs” (UNGC 2017, 25). However, the level of compliance (reporting on sustainability practices in the form of a COP) is limited among SMEs and lower compared to larger firms (UNGC 2017). Due to their partial compliance, these SMEs are labeled as “non-communicating members” on the Global Compact website. This fact could be explained by some specific factors in the firm such as lack of resources (financial resources and know-how, among others) (Agostini, Costa, and Bagnoli 2018), but also by factors such as the short-term approach of SMEs’ corporate strategies (Herrera Madueño et al. 2016). The effort that UNGC has been making to support SR implementation among SMEs has had successful results (Chen and Bouvain 2009; Dienes, Sassen, and Fischer 2016), particularly in Spain, where 61% of all signatories are SMEs (UNGC 2019).

## **2.2 Criteria for evaluating SR alternatives in SMEs**

A literature review allowed us to draw up an initial list of the potential costs and benefits related to the disclosure of the sustainability performance of an SME through SR. This first version of potential costs and benefits (referred to simply as “sub-criteria” in the

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<sup>1</sup> <https://www.globalreporting.org/standards> (accessed March 5 2020).

<sup>2</sup> <https://database.globalreporting.org/search> (accessed March 5 2020).

method) was shared, discussed and pre-tested with a panel of 10 experts on the research topic, in December 2019. Their suggestions prompted us to reconsider some of the items on the list, and eventually 21 sub-criteria were agreed to have an impact on the decision to produce and publish a sustainability report. We grouped them into five general categories (decision criteria): cost and risk reduction, internal organizational benefits, competitive advantage, reputation and legitimacy, and synergistic value creation (i.e. a broad perspective of benefits to the organization from engaging in SR practices, the so-called “business case”) (Carroll and Shabana 2010; Kurucz, Colbert, and Wheeler 2008). These criteria are in addition to the criterion of the economic cost of implementing SR (table 2).

[Table 2 near here]

### 3 Methods and data gathering

The decision-making process related to the evaluation and adoption of SR in a firm could be described as a MCDM problem. Decision-makers (i.e. managers and/or owners of SMEs) have to prioritize among several alternatives (e.g., GRI, UNGC and NSSR, in our case). To do so, they consider a set of decision criteria and sub-criteria (costs and benefits related to each alternative) in order to be able to select the “optimal” SR alternative. In this process, the first step is to calculate the weights attached to the decision (sub-)criteria, followed by prioritization (ranking) of the SR alternatives.

In this section, we describe the BWM, a MCDM technique used to calculate the weights of the criteria and sub-criteria, and the method used to rank the three SR alternatives. We also explain how the data needed for the illustrative application were collected.

#### 3.1 Best-worst method (BWM)

In this paper, the BWM (Rezaei 2015, 2016), a recently developed intuitive and robust MCDM technique, was applied to determine the weights of the decision criteria and sub-criteria. The BWM overcomes the major drawbacks of other existing MCDM methods, such as the well-known Analytic Hierarchy Process: BWM requires fewer questions (pairwise comparisons) for respondents (decision-makers and experts), which produces more consistent and reliable results.

BWM has been successfully applied to supply chain problems (Ahmad et al. 2017; Rezaei et al. 2016), sustainability performance evaluation of firms (Raj and Srivastava 2018), technology dominance (van de Kaa et al. 2020), innovation management (Gupta and Barua 2016), and research and development performance evaluation of SMEs (Salimi and Rezaei 2018), among others. BWM has not, to the best of the authors’ knowledge, been applied to the specific topic of SR selection.

An MCDM problem can be formulated as a matrix:

$$P = \begin{matrix} & c_1 & c_2 & \dots & c_n \\ a_1 & \left( \begin{matrix} p_{11} & p_{12} & \dots & p_{1n} \\ p_{21} & p_{22} & \dots & p_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ p_{m1} & p_{m2} & \dots & p_{mm} \end{matrix} \right) \end{matrix} \quad (1)$$

where,  $\{a_1, a_2, \dots, a_m\}$  is a set of feasible alternatives (GRI, UNGC and NSSR, in our case);  $\{c_1, c_2, \dots, c_n\}$  is a set of evaluation or decision criteria (benefits and costs, in our research); and,  $p_{ij}$  is the performance score of the alternative  $i$  with respect to criterion  $j$ .

The steps followed in BWM to derive the weights of the decision criteria are as follows (Rezaei 2015, 2016):

Step 1. A set of decision (sub-)criteria  $\{c_1, c_2, \dots, c_n\}$  (in this study, costs and benefits derived from the implementation of SR) are determined that should help decision-makers to arrive at a decision in an MCDM problem (in this study, selecting the best SR alternative for each firm).

Step 2. The best (sub-)criterion (e.g. the most important) and the worst (sub-)criterion (e.g. the least important) of the set of decision (sub-)criteria are identified by the respondent (decision-maker or expert).

Step 3. The preference of the best (sub-)criterion over all the other (sub-)criteria is determined using a number between 1 and 9 (the value of 1 indicates equal importance between two (sub-)criteria; 2 shows that one (sub-)criterion is slightly more important than the other; (...) and 9 indicates that one (sub-)criterion is of much greater importance than the other). From these respondent preferences, the Best-to-Others vector results are given:  $A_B = (a_{B1}, a_{B2}, \dots, a_{Bn})$  where,  $a_{Bj}$  shows the preference of the best (sub-)criterion,  $B$ , over criterion  $j$ , when  $a_{BB} = 1$ .

Step 4. The preference of all the (sub-)criteria over the worst (sub-)criterion is determined using a number between 1 and 9, in a similar way to the previous step. With this information, it is possible to construct the Others-to-Worst vector:  $A_W = (a_{1W}, a_{2W}, \dots, a_{nW})^T$  where,  $a_{jW}$  reveals the preference of the (sub-)criterion,  $j$ , over the worst (sub-)criterion,  $W$ , when  $a_{WW} = 1$ .

Step 5. The optimal weights  $(w_1^*, w_2^*, \dots, w_n^*)$  of the decision (sub-)criteria are obtained by solving the following model:

$$\begin{aligned}
 & \min \xi^L \\
 & \text{s.t.} \\
 & |w_B - a_{Bk}w_k| \leq \xi^L, \text{ for all } k \\
 & |w_k - a_{kW}w_W| \leq \xi^L, \text{ for all } k \\
 & \sum_j w_k = 1, \\
 & w_k \geq 0, \text{ for all } k.
 \end{aligned} \tag{2}$$

By solving the problem, we also obtain  $\xi^L$ , a consistency indicator of the responses (values closer to zero show better consistency). In addition, a consistency ratio (CR)  $\in [0, 1]$  is calculated. The lower the CR the more consistent the comparisons, hence the more reliable the results (a  $CR \leq 0.25$  shows a very high consistency level).

### 3.2 Ranking alternatives

After obtaining the optimal weights of the set of sub-criteria considered in this research,  $(w_1^*, w_2^*, \dots, w_n^*)$  the performance scores  $p_{ij}$  (1) were obtained by evaluating alternative  $i$  (e.g. GRI) with respect to sub-criterion  $j$  (e.g. cost of implementing the standard). We derive the scores  $p_{ij}$  from interviews with the panel of experts, drawing from van de Kaa, Kamp, and Rezaei (2017). The overall score of each alternative,  $V_i$ , can be obtained from the following value function:

$$V_i = \sum_{j=1}^n w_j^* p_{ij} \quad (3)$$

The alternative (GRI, UNGC or NSSR) with the highest overall value will be ranked first in each firm.

### 3.3 Data gathering

Two different semi-structured interviews were designed (see fig. 1) to collect the data needed to calculate the weights of the criteria and sub-criteria ( $w_1^*, w_2^*, \dots, w_n^*$ ) and the scores of each alternative with respect to each sub-criterion ( $p_{ij}$ ), as well as other complementary information that helped us to interpret the results of the BWM.

The first one was administered to the managers in charge of the sustainability strategy of eight Spanish SMEs and the second one was for experts in the SR field. The former was divided into three main parts: the interview began with several open-ended questions on the personal characteristics of the manager and on the sustainability strategy of the firm; the second part included all the closed-ended questions needed to gather the data to be used in the BWM (in order to elicit the criteria and the sub-criteria weights); and finally, the managers were asked to respond to some open-ended questions on aspects of relevance to firms and stakeholders, for example, the potential relation between the SR strategy that is chosen and the strategy of the firm. Each semi-structured interview was administered to managers at their place of work between February and March 2020 and took approximately one hour to complete.

The second interview was designed to obtain the opinions of the panel of 10 academic experts (with proven research experience in SR, ensuring that each expert was knowledgeable about the three alternatives analyzed in this work). The selection of experts began with an initial email to a sample of four contacts, asking them whether they would be willing to circulate the research idea among their academic contacts specialized in SR. The experts were asked to score each SR alternative with respect to each sub-criterion ( $p_{ij}$ ) on a 0-7 scale (0: the alternative  $i$  performs badly or has no importance with respect to the sub-criterion  $j$ ; (...) and 7: the alternative  $i$  has an excellent performance with respect to the sub-criterion  $j$ , i.e., the higher the better). For example, the first question in the interview was: “In your opinion, how important is the cost of implementing the standard in the case of the GRI alternative? Please, rate on a scale of 0-7”. These performance scores were aggregated using the arithmetic mean, which was later used to calculate the overall score of each alternative ( $V_i$ ) in each firm (equation 3).

All the interviews were recorded and transcribed. This process facilitated the identification of the themes, and the interpretation and the accessibility of the information for the discussion of the results.

[Fig. 1 near here]

## 4 Illustrative application

In this section, a real-world application of the proposed methodological approach in eight Spanish SMEs is presented to test its applicability and efficacy.



#### 4.1 Profile of the analyzed SMEs

The SMEs<sup>3</sup> were chosen on the basis of two prerequisites: first, having a proactive SR orientation (i.e. SMEs that have voluntarily implemented any strategy aimed at reporting on their sustainability practices); and second, having a person in charge of sustainability/CSR matters, such as a CSR manager or another type of manager (even the owner) with knowledge of the field (Lisi 2015) and capacity to influence sustainability/CSR decisions (Luque-Vílchez et al. 2019). The panel of experts helped us to find several SMEs that fulfilled these two prerequisites. Eight firms were finally selected based on the managers' willingness to participate in the research (see table 3). For confidentiality reasons, the names of these firms are not reported and instead are referred to by codes (letters A to H).

For each SME that was selected, the purpose was to evaluate the three SR alternatives (GRI, UNGC, and NCSR) following the methodological approach explained above, in order to determine the best SR alternative for each firm.

[Table 3 near here]

We contacted the person in charge of sustainability matters in each firm and arranged an appointment to conduct the interview in person.

#### 4.2 Results of the best-worst method (BWM)

In this sub-section, we present the results obtained from the BWM, i.e. the weights for the six decision criteria (economic cost, cost and risk reduction, internal organizational benefits, competitive advantage, reputation and legitimacy, and synergistic value creation) and for the 21 decision sub-criteria in each firm. As commented above, these results were elicited from the information gathered in the interview with the CSR manager (or the equivalent) at each SME.

As can be observed in table 4, the vast majority of firms (all of them except B) rated "reputation and legitimacy" as the most important criterion (or one of the two most important criteria) related to the adoption of a sustainability report, with the value of 0.49 for SME H standing out. Within the category "reputation and legitimacy," the decision sub-criterion rated with the highest score in four of the eight firms is "reputation over time". In contrast, the "economic cost" is the least relevant factor in six out the eight SMEs, with extremely low values, ranging from 0.02 to 0.04.

"Competitive advantage" and "synergistic value creation" are, in most cases, of intermediate or moderate importance for SR in the set of SMEs under consideration. In the case of the former, the weights range between 0.10 and 0.33 and, in the latter, the elicitation of weights showed values in the interval 0.10-0.36. "Stakeholder-oriented competitive strategy" and "relations with customers and suppliers" are the top two sub-criteria, in that order.

The values of  $\xi^L$  and CR, the indicators of consistency in the responses, although not reported here due to restrictions on space, showed good consistency in all cases, suggesting a high level of reliability of the results.

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<sup>3</sup> These firms comply with the definition of an SME under EU criteria (EU recommendation L124/36 2003/361/CE), which establishes that SMEs "employ fewer than 250 persons and [...] have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million."

The global weights of the sub-criteria for each firm are used in a second step to calculate the prioritization of the SR alternatives within each firm.

[Table 4 near here]

### 4.3 Ranking of the SR alternatives

In what follows, first we present the average values of the performance scores ( $p_{ij}$ ) of each SR alternative with respect to each sub-criterion (table 5), calculated from the information gathered from the interview with the experts, which is needed to apply Equation 3. As can be observed, the GRI performed better than the UNGC and the NSSR in all the sub-criteria that represent benefits for the firm (from DSC-21 to DSC-64). However, the low performance scores of the GRI in the costs sub-criteria (DSC-11 to DSC-13) revealed that the GRI is, in fact, the most expensive SR alternative for SMEs.

Second, the results of the prioritization of the three SR alternatives for all firms are displayed in table 6. These results have been obtained from Equation (3), using the optimal global weights of the sub-criteria ( $w_j^*$ ) in each firm (see table 4) and the average values of the performance scores ( $p_{ij}$ ) of each SR alternative with respect to each sub-criterion (see table 5). In the eight SMEs considered in the illustrative application, the GRI is the SR alternative with the highest value or score, i.e., the “optimal” alternative in terms of the set of costs and benefits considered in our methodological approach, followed by the UNGC and the NSSR, in that order.

[Table 5 near here]

[Table 6 near here]

## 5 Discussion

Consistent with the extensive literature confirming the influence of reputation as the main motivation for SR in firms (e.g., Armitage and Marston 2008; Glavopoulos et al. 2014; Odriozola and Baraibar-Diez 2017; Parsa and Kouhy 2008), our analysis shows that “reputation and legitimacy” is the most highly valued SR-related criterion for most of the SMEs under analysis. Although other criteria are also taken into account, as detailed below, the analysis revealed that “reputation and legitimacy” is generally perceived as a differentiating element that firms can gain by producing a sustainability report.

Other benefits that SMEs have valued as especially relevant are those related to the role of SR in creating “competitive advantages” (de Colle, Henriques, and Sarasvathy 2014) and “synergistic value creation” (Ghadge et al. 2017). Firstly, “competitive advantage” was related to the strategic consequences of SR in our methodological design, where “stakeholder-oriented competitive strategy” was the most valued sub-criterion. This idea is in line with the claims of GRI and IOE (2016), which state that firms should explain their response to stakeholder expectations and interests. A potential explanation that emerges from the analysis is related to the fact that dialogue and participation with stakeholders is the keystone of firms’ strategy. In addition, this result is consistent with the notion of sustainability as a new paradigm for competitiveness (Ashton, Russell, and Futch 2017). Secondly, “synergistic value creation” is associated with an SME stakeholder engagement approach. More specifically, “relations with customers and suppliers” was the most highly valued sub-criterion. The role of SMEs as suppliers of larger companies means SR is becoming a necessary step in the formalization of their relationships. Thus, according to Ayuso, Roca, and Colomé (2013), the most demanding

SR requirements that SMEs face from their customers come from these large firms. In turn, SMEs can relay these requests received to their own suppliers. All the above can be extrapolated to the decision of adopting an SR standard. In fact, this vision is in line with the findings of the public consultation on the revision of the non-financial directive (European Commission 2020, 3), which states that “many SMEs are under increasing pressure to provide certain non-financial information to other businesses, in particular if they are suppliers of large companies”.

Contrary to what some authors have suggested regarding the economic cost (Agostini, Costa, and Bagnoli 2018; Armitage and Maston 2008) being one of the main barriers to the development of SR in SMEs, our findings have indicated that the “economic cost” is the least valued criterion for SMEs. In fact, SR is viewed as an investment that will yield profits over time. The results of the analysis suggested that SMEs appear to have grasped the superior value that SR offers and thus the “cost” is understood as a precondition to achieving a long-term return for the firm derived from reporting on sustainability issues. This evidence suggests that taking steps to report sustainability information will help SMEs embrace a holistic perception of the potential business gain from adopting SR (Kurucz, Colbert, and Wheeler 2008).

Bearing in mind the above, our findings are in line with the EFAA (2018, 3), which has underlined the need to disclose, stating that “[SR] can help SMEs access finance, secure new business partners, attract new consumers and clients, and attract and retain talent. SMEs that do not produce a sustainability report may miss out on these benefits”. Our findings are also consistent with studies such as that by Malesios et al. (2018), which reveals to managers/owners how and why SR becomes a critical practice for their bottom-line performance. In contrast, our results differ from claims made in previous studies, such as that by Spence, Jeurissen, and Rutherford (2000), who stated that SMEs see no benefit in the introduction of SR in their strategy or in considering it as a competitive advantage.

This research has shown that GRI is the best alternative for SMEs. UNGC was second, followed at some distance by NSSR. In practice, GRI is one of the world’s most widely used SR standards (Gallén Ortiz and Giner Inchausti 2014; Skouloudis and Evangelinos 2012) and the best standard to provide useful information to stakeholders (Tschopp and Nastanki 2014). Since it offers numerous listed indicators that can be used for social, economic, and environmental assessment purposes, GRI can be more easily implemented than UNGC, as companies can choose their own indicators. Other positive aspects that academia have attributed to the adoption of GRI in top global companies are based on competitive and media pressures and SR publicity efforts (Nikolaeva and Bicho 2011). Indeed, the GRI *per se* can be seen as a tool that reinforces the reputation of these firms and also contributes by introducing specific environmental certifications, such as ISO 14001 or EMAS (Skouloudis et al. 2013). Our findings revealed that SMEs are no different in this regard. Indeed, for SMEs, the most relevant benefit derived from adopting an SR standard is the boost to their reputation. In addition, “synergistic value creation” is also among the most important considerations for the SMEs analyzed. This evidence is consistent with the key GRI value of stakeholder engagement with regard to the materiality principle, thereby confirming the prioritization of GRI for these firms. Our findings represent a step forward in the literature (e.g. Skouloudis and Evangelinos 2012) that has pointed out the lack of a superior alternative for reporting corporate social activities. By distinguishing between the different SR alternatives in terms of their suitability for SMEs, the research is able to select the “optimal” SR alternative for them.

## 6 Conclusions and final remarks

Choosing a specific SR standard for an SME tends to be a decision that is determined by the organization itself, and more specifically by the managers/owners, based on their own personal commitment (Rivera-Lirio and Muñoz-Torres, 2010) to sustainability, private interests or simply intuition, rather than an efficiency-based selection of the most suitable option. In this study, a novel approach has been proposed to assist SMEs in their prioritization of SR standards, providing a useful tool for early reporters that will help them avoid potential failures in SR standard selection. De Colle, Henriques, and Sarasvathy (2014, 180) commented that the use of SR appears to be built on the implicit assumption that it is “automatically going to deliver precisely the positive outcomes envisaged by the standard, at least if they are applied properly”. These authors also underscored the need to base the selection on a reasoned process: when selecting a specific SR standard, managers should at least consider the criteria that have been proposed.

The prioritization of SR alternatives conducted in this research has entailed two steps: first, the selection of the decision criteria, i.e. costs and benefits, that are used to choose SR standards, based on an extensive literature review and on discussion with a panel of experts; and second, the application of the BWM, which is used to consider the set of benefits and costs arising from the decision to adopt a SR strategy.

Our results have shown that SMEs held “reputation and legitimacy” to be the most valued criterion for engaging in SR, whereas the “economic cost” is the least relevant. On the other hand, our results have shown that GRI is the best alternative for the SMEs analyzed, followed by UNGC. That evidence is consistent with the literature reflecting the predominant role of GRI within large companies and the increasing number of companies worldwide opting for UNGC. Contrary to what was expected, the factors behind the SR decision in SMEs are not so different from those in large companies, a finding that represents one of the most relevant contributions of this paper. In the same vein, the choice of SR standards does not differ so much from the evidence shown by large firms.

These conclusions have important implications for both the SMEs engaging in SR practices and regulators. With respect to the first, the powerful tool proposed in this research helps organizational decision-makers to incorporate SR in their strategies and to implement such strategies effectively. Firms that are aware of the potential benefits should embark on the SR journey. These criteria will encourage SMEs to operate formally, dissuading them from using the informal information channels associated with SMEs’ reporting of their CSR activities. With respect to regulators (e.g. policymakers), the study provides relevant insights to help them boost the adoption of SR through different policies: ‘sustainability training’, ‘awareness raising among companies and society in general’, ‘encourage dialogue between the various stakeholders’ and ‘provide information and public recognition of good reporting practices’. More specifically, policymakers concerned with the best way to facilitate SR can use our framework and evidence as a starting point to foster the interest of SMEs. With all of the above in mind, it should be recalled that non-financial reporting regulation is currently evolving, and SR will in all probability be mandatory for SMEs in the forthcoming years in Spain<sup>4</sup> (as well

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<sup>4</sup> The transposition into Spanish law of the 2014/95/EU Directive on non-financial information through Law 11/2018 affects companies with over 500 employees, and the law will be in force for companies with over 250 employees by 2021. The tendency is clearly towards the regulation of SMEs.

as in other countries), as a way of lending credibility and validity to the information that these firms disclose.

We are aware that one of the limitations of our study is the sample used. Since the firms under study are proactively oriented towards SR, it would be desirable to expand the sample to include reactive SMEs, which would also allow us to increase the sample size for future studies on this topic. In fact, this paper opens up avenues for future studies to examine this research question in more depth. It might be of interest to explore this issue in other national contexts and by applying other MCDM models to determine the weights of the SR criteria. Finally, it would be worth delving into the reasons that explain SR decisions in SMEs using an alternative approach that accounts for both the practitioners' and stakeholders' point of view. Overall, the proposed lines of future research, applying the novel methodological approach presented in this study, could contribute valuable information to the field of social and environmental accounting and to the field of management and environment.

**Table 1**

Overview of the most important reporting standards.

Standard	Organization leading the standard	Brief description of the standard
Global Reporting Initiative (GRI)	Global Reporting Initiative	The Global Reporting Initiative (GRI) is a framework for comprehensive corporate social responsibility reporting on environmental, social and governance topics (Greenstone 2014, 5).
United Nations Global Compact (UNGC)	United Nations	Initiative based on CEOs' commitments to implement universal sustainability principles and take steps to support UN goals (UNGC 2020b).
Integrated reporting (IR)	International Integrated Reporting Council	Integrated reporting is a process founded on integrated thinking that results in a periodic integrated report by an organization about value creation over time and related communications regarding aspects of value creation (IIRC 2020).
Carbon Disclosure Project (CDP)	Carbon Disclosure Project	The primary focus of CDP is the reporting of environmental information, particularly greenhouse gas (GHG) emissions, with CDP referring to themselves as a "global system for companies and cities to measure, disclose, manage and share vital environmental information" (Greenstone 2014, 8).
Sustainability Accounting Standards Board (SASB)	Sustainability Accounting Standards Board	SASB has developed sector-specific KPIs for sustainability. SASB provides a series of standards to reporting companies from all sectors with regards environmental information and natural capital reporting as further guidance for certain environmental metrics (Climate Disclosure Standard Board, 2017).

*Source. Compiled by the authors*

**Table 2**

Decision (sub-)criteria in the SR decision-making process in firms.

Decision criteria	Decision sub-criteria	Main references supporting sub-criteria
DC-1. Economic Cost	DSC-11. Cost of implementing the standard (e.g. cost of certification or cost of employee training)	(Adams 2002; Ashton, Russell, and Futch 2017; de Colle, Henriques, and Sarasvathy 2014; Gallardo-Vázquez, Juárez, and Domínguez 2020)
	DSC-12. Cost of information reporting (e.g., paper copy of full report or electronic/Internet versions thereof)	(Dwyer 2005; Gallardo-Vázquez, Juárez, and Domínguez 2020)
	DSC-13. Cost of new information and control needs (e.g. strong information management systems)	(Agostini, Costa, and Bagnoli 2018; Armitage and Marston 2008; Dwyer 2005; Gallardo-Vázquez, Juárez, and Domínguez 2020)
DC-2. Cost and risk reduction	DSC-21. Firm efficiency (i.e. lower operating costs)	(Berman et al. 1999; Elkington 1998; Gallardo-Vázquez, Juárez, and Domínguez 2020)
	DSC-22. Ability to attract capital and cost of financing	(Berman et al. 1999; Dwyer 2005; Garcia-Sanchez et al. 2019; Revell, Stokes, and Chen 2010)
	DSC-23. Fiscal advantages and costs of complying with present and future regulations	(Berman et al. 1999; Dwyer 2005)
	DSC-24. Risk prevention and/or mitigation (e.g. consumer avoidance and NGO boycotts)	(Epstein and Roy 2001; Gallardo-Vázquez, Juárez, and Domínguez 2020; Weber 2008)
DC-3. Internal organizational benefits	DSC-31. Implementation of the sustainability strategy in the firm	(de Colle, Henriques, and Sarasvathy 2014; Dwyer 2005; Elkington 1998; GRI and IOE 2016)
	DSC-32. Continuous improvement and coordination in the organization	(de Colle, Henriques, and Sarasvathy 2014; Dwyer 2005; Gray and Bebbington 2000)
	DSC-33. Allocation of resources	(Dwyer 2005; Hasan et al. 2018)
DC-4. Competitive advantage	DSC-41. Stakeholder-oriented competitive strategy	(Battaglia et al. 2010; de Colle, Henriques, and Sarasvathy 2014; Elkington 1998; GRI and IOE 2016; Moneva and Hernández-Pajares 2018)
	DSC-42. Long-term vision (strategy) of the firm	(Ashton, Russell, and Futch 2017; Battaglia et al. 2010; Jansson et al. 2017)
	DSC-43. Differentiation from other competitors	(Herrera Madueño et al. 2016; Testa et al. 2016)
	DSC-44. Access to new markets and market share	(Laszlo and Zhexembayeva 2011; Tan et al. 2015)

Decision criteria	Decision sub-criteria	Main references supporting sub-criteria
DC-5. Reputation and legitimacy	DSC-51. Corporate image	(Adams 2002; Elkington 1998; Gallardo-Vázquez, Juárez, and Domínguez 2020; Glavopoulos et al. 2014; Gray, Owen, and Maunders 1988; Juárez and Domínguez 2020; Moneva and Hernández-Pajares 2018)
	DSC-52. Reputation over time	(Armitage and Marston 2008; Castilla-Polo, Sánchez-Hernández, and Gallardo-Vázquez 2017; de Colle, Henriques, and Sarasvathy 2014; de la Fuente Sabaté and de Quevedo Puente 2003; Glavopoulos et al. 2014; Husillos, Larrinaga, and Álvarez-Gil 2011; Moneva and Hernández-Pajares 2018; Odriozola and Baraibar-Diez 2017; Parsa and Kouht 2008)
	DSC-53. Legitimacy to stakeholders	(Armitage and Marston 2008; Elkington, 1998; Gallardo-Vázquez, Juárez, and Domínguez 2020; Jamali, Lund-Thomsen, and Jeppesen 2017; Moneva and Hernández-Pajares 2018; Rasche 2009; Tran and Jeppesen 2016)
DC-6. Synergistic value creation	DSC-61. Relations with employees	(Gallardo-Vázquez, Juárez, and Domínguez 2020; GRI and IOE 2016; Turban and Greening 1997; Weber 2008)
	DSC-62. Relations with customers and suppliers	(Ayuso, Roca, and Colomé 2013; Baden, Harwood, and Woodward 2009; GRI and IOE 2016; Moneva and Hernández-Pajares 2018)
	DSC-63. Relations with financial institutions	(Ghadge et al. 2017; GRI and IOE 2016; Moneva and Hernández-Pajares 2018)
	DSC-64. Relations with regulators and public administrations	(Baden, Harwood, and Woodward 2009; Gray, Owen, and Maunders 1988; Kim, Park, and Wier 2012; Herremans, Nazari, and Mahmoudian 2016; Moneva and Hernández-Pajares 2018; Revell, Stokes, and Chen 2010)

Source. Compiled by the authors based on an extensive literature review.



**Table 3**  
Profile of the SMEs

SME	Industry	Legal form	Net revenues* (€)	Number of employees*
A	Beverage production	Cooperative	13,146,126	30
B	Architectural and engineering services	Limited liability company	411,467	9
C	Food industry	Limited liability company	2,718,840	12
D	Land transportation	Public limited company	54,548,599	131
E	Real estate activities	Public limited company	20,699,333	70
F	Research and development	Limited liability company	631,197	9
G	Engineering technical services	Limited liability company	312,475	8
H	Management consulting activities	Limited liability company	170,438	3

*Source. Compiled by the authors with data collected from the Sistema de Análisis de Balances Ibéricos (SABI) database.*

*\* Average over the past three years*

**Table 4**  
Weights for criteria and sub-criteria (L=local weight; G=global weight\*)

Criteria and sub-criteria	SME A		SME B		SME C		SME D		SME E		SME F		SME G		SME H	
	L	G	L	G	L	G	L	G	L	G	L	G	L	G	L	G
DC-1. Economic Cost	0.03		0.04		0.03		0.04		0.02		0.07		0.12		0.04	
DSC-11. Cost of implementing the standard	0.27	0.01	0.71	0.03	0.11	0.00	0.75	0.03	0.08	0.00	0.17	0.01	0.74	0.09	0.76	0.03
DSC-12. Cost of information reporting	0.67	0.02	0.17	0.01	0.44	0.01	0.18	0.01	0.13	0.00	0.74	0.05	0.19	0.02	0.08	0.00
DSC-13. Cost of new information and (...)	0.07	0.00	0.11	0.00	0.44	0.01	0.08	0.00	0.79	0.02	0.09	0.01	0.08	0.01	0.16	0.01
DC-2. Cost and risk reduction	0.05		0.09		0.07		0.11		0.10		0.03		0.12		0.08	
DSC-21. Firm efficiency	0.57	0.03	0.58	0.05	0.43	0.03	0.07	0.01	0.40	0.04	0.52	0.02	0.69	0.08	0.08	0.01
DSC-22. Ability to attract capital and cost of fin.	0.23	0.01	0.06	0.01	0.34	0.02	0.71	0.08	0.40	0.04	0.21	0.01	0.06	0.01	0.75	0.06
DSC-23. Fiscal advantages and costs (...)	0.07	0.00	0.11	0.01	0.18	0.01	0.10	0.01	0.04	0.00	0.06	0.00	0.12	0.01	0.08	0.01
DSC-24. Risk prevention and/or mitigation	0.14	0.01	0.25	0.02	0.04	0.00	0.12	0.01	0.16	0.02	0.21	0.01	0.12	0.01	0.08	0.01
DC-3. Internal organizational benefits	0.05		0.36		0.35		0.15		0.10		0.13		0.04		0.12	
DSC-31. Implementation of the sust. strat.	0.65	0.03	0.26	0.10	0.64	0.23	0.75	0.11	0.64	0.07	0.60	0.08	0.44	0.02	0.60	0.07
DSC-32. Continuous improvement and (...)	0.25	0.01	0.66	0.24	0.11	0.04	0.18	0.03	0.24	0.03	0.23	0.03	0.44	0.02	0.17	0.02
DSC-33. Allocation of resources	0.09	0.00	0.08	0.03	0.24	0.09	0.07	0.01	0.11	0.01	0.17	0.02	0.11	0.00	0.23	0.03
DC-4. Competitive advantage	0.33		0.05		0.10		0.23		0.26		0.13		0.19		0.20	
DSC-41. Stakeholder-oriented comp. strat.	0.55	0.18	0.57	0.03	0.42	0.04	0.47	0.11	0.52	0.13	0.09	0.01	0.20	0.04	0.50	0.10
DSC-42. Long-term vision (strategy) of the firm	0.23	0.08	0.23	0.01	0.06	0.01	0.29	0.07	0.20	0.05	0.52	0.06	0.09	0.02	0.21	0.04
DSC-43. Differentiation from other competitors	0.17	0.06	0.14	0.01	0.10	0.01	0.19	0.04	0.09	0.02	0.20	0.02	0.52	0.10	0.21	0.04
DSC-44. Access to new markets and (...)	0.05	0.02	0.07	0.00	0.42	0.04	0.04	0.01	0.20	0.05	0.20	0.02	0.20	0.04	0.07	0.01
DC-5. Reputation and legitimacy	0.39		0.10		0.35		0.36		0.26		0.29		0.45		0.49	
DSC-51. Corporate image	0.25	0.10	0.64	0.06	0.20	0.07	0.28	0.10	0.11	0.03	0.11	0.03	0.24	0.11	0.26	0.13
DSC-52. Reputation over time	0.09	0.04	0.09	0.01	0.20	0.07	0.06	0.02	0.64	0.17	0.64	0.19	0.64	0.29	0.66	0.32
DSC-53. Legitimacy to stakeholders	0.65	0.26	0.27	0.03	0.60	0.21	0.67	0.24	0.24	0.06	0.24	0.07	0.11	0.05	0.08	0.04
DC-6. Synergistic value creation	0.15		0.36		0.10		0.11		0.26		0.35		0.08		0.07	
DSC-61. Relations with employees	0.23	0.03	0.56	0.20	0.38	0.04	0.59	0.07	0.19	0.05	0.57	0.20	0.16	0.01	0.24	0.02
DSC-62. Relations with customers and suppliers	0.56	0.08	0.24	0.09	0.38	0.04	0.25	0.03	0.54	0.14	0.23	0.08	0.62	0.05	0.60	0.04
DSC-63. Relations with financial institutions	0.14	0.02	0.06	0.02	0.13	0.01	0.06	0.01	0.19	0.05	0.07	0.02	0.06	0.01	0.10	0.01
DSC-64. Relations with regulators and pub. admin.	0.07	0.01	0.14	0.05	0.13	0.01	0.11	0.01	0.07	0.02	0.14	0.05	0.16	0.01	0.05	0.00

Source. Calculated by the authors based on managers' survey.

\*The global weight of each sub-criterion (e.g. cost of implementing the standard) is obtained by multiplying the local weight of the corresponding criterion (economic cost) by the local weight of the sub-criterion (cost of implementing the standard). The sum of the global weights of all the sub-criteria is equal to one (these values will be used for calculating the ranking of the alternatives).

**Table 5**

Performance scores of each alternative with respect to each sub-criterion (average values)

Alternatives	DC-1. Economic Cost			DC-2. Cost and risk reduction				DC-3. Internal organiz. benefits			DC-4. Competitive advantage				DC-5. Reputation and legitimacy			DC-6. Synergistic creation			value
	DSC-11	DSC-12	DSC-13	DSC-21	DSC-22	DSC-23	DSC-24	DSC-31	DSC-32	DSC-33	DSC-41	DSC-42	DSC-43	DSC-44	DSC-51	DSC-52	DSC-53	DSC-61	DSC-62	DSC-63	
GRI	0	1	1	6	6	6	5	7	6	5	6	6	6	5	6	6	6	5	6	6	6
UNGC	3	3	3	4	4	4	3	5	4	3	4	4	4	3	4	4	5	4	4	4	4
NSSR	5	4	5	2	2	1	1	2	2	2	2	2	1	2	2	2	3	2	2	2	2

*Source. Calculated by the authors based on the survey of experts.*

**Table 6**  
Prioritization of SR alternatives in each SME

SMEs	GRI	UNGC	NSSR
A	5.81	4.23	2.26
B	5.62	4.03	2.09
C	5.90	4.28	2.27
D	5.81	4.28	2.27
E	5.82	4.03	2.08
F	5.43	4.02	2.21
G	5.28	3.89	2.25
H	5.76	4.02	2.11
Mean	5.68	4.10	2.19

*Source. Calculated by the authors based on managers' survey.*

## References

- Adams, C. A. 2002. "Internal organisational factors influencing corporate social and ethical reporting: Beyond current theorising." *Accounting, Auditing and Accountability Journal*, 15 (2): 223-250. <https://doi.org/10.1108/09513570210418905>.
- Adams, C. A. 2017. "Conceptualising the contemporary corporate value creation process." *Accounting, Auditing and Accountability Journal*, 30 (4): 906-931. <https://doi.org/10.1108/AAAJ-04-2016-2529>.
- Agostini, Marisa, Erika Costa, and Carlo Bagnoli. 2018. "The role of small and medium practices in the Sustainability Reporting of Italian small and medium enterprises." In *Maintaining Sustainable Accounting Systems in Small Business*, edited by Luísa Cagica Carvalho, and Elisa Truant, 1-23. Hershey, PA: IGI Global.
- Ahmad, W. N. K. W., J. Rezaei, S. Sadaghiani, and L. A. Tavasszy. 2017. "Evaluation of the external forces affecting the sustainability of oil and gas supply chain using Best Worst Method." *Journal of Cleaner Production*, 153: 242-252. <https://doi.org/10.1016/j.jclepro.2017.03.166>.
- Arena, M., and G. Azzone. 2012. "A process-based operational framework for sustainability reporting in SMEs." *Journal of Small Business and Enterprise Development*, 19 (4): 669-686. <https://doi.org/10.1108/14626001211277460>.
- Armitage, S., and C. Marston. 2008. "Corporate disclosure, cost of capital and reputation: Evidence from finance directors." *The British Accounting Review*, 40 (4): 314-336. <https://doi.org/10.1016/j.bar.2008.06.003>.
- Ashton, W., S. Russell, and E. Futch. 2017. "The adoption of green business practices among small US Midwestern manufacturing enterprises." *Journal of Environmental Planning and Management*, 60 (12): 2133-2149. <https://doi.org/10.1080/09640568.2017.1281107>.
- Ayuso, S., M. Roca, and R. Colomé. 2013. "SMEs as "transmitters" of CSR requirements in the supply chain." *Supply Chain Management*, 18 (5): 497-508. <https://doi.org/10.1108/SCM-04-2012-0152>.
- Baden, D. A., I. A. Harwood, and D. G. Woodward. 2009. "The effect of buyer pressure on suppliers in SMEs to demonstrate CSR practices: An added incentive or counter productive?" *European Management Journal*, 27 (6): 429-441. <https://doi.org/10.1016/j.emj.2008.10.004>.
- Battaglia, M., L. Bianchi, M. Frey, and F. Iraldo. 2010. "An innovative model to promote CSR among SMEs operating in industrial clusters: Evidence from an EU project." *Corporate Social Responsibility and Environmental Management*, 17 (3): 133-141. <https://doi.org/10.1002/csr.224>.
- Berman, S. L., A. C. Wicks, S. Kotha, and T. M. Jones. 1999. "Does Stakeholder Orientation Matter? The Relationship Between Stakeholder Management Models and Firm Financial Performance." *Academy of Management Journal*, 42 (5): 488-506. <https://doi.org/10.2307/256972>.
- Brammer, S., S. Hojmosse, and K. Marchant. 2012. "Environmental management in SMEs in the UK: Practices, pressures and perceived benefits." *Business Strategy and the Environment*, 21 (7): 423-434. <https://doi.org/10.1002/bse.717>.
- Carroll, A. B., and K. M. Shabana. 2010. "The business case for corporate social responsibility: A review of concepts, research and practice." *International Journal of Management Reviews*, 12 (1): 85-105. <https://doi.org/10.1111/j.1468-2370.2009.00275.x>.
- Castilla-Polo, F., M. I. Sánchez-Hernández, and D. Gallardo-Vázquez. 2017. "Assessing the influence of social responsibility on reputation: An empirical case-study in agricultural

- cooperatives in Spain.” *Journal of Agricultural and Environmental Ethics*, 30 (1): 99-120. <https://doi.org/10.1007/s10806-017-9656-9>.
- Chen, S., and P. Bouvain. 2009. “Is corporate responsibility converging? A comparison of corporate responsibility reporting in the USA, UK, Australia, and Germany.” *Journal of Business Ethics*, 87 (1): 299-317. <https://doi.org/10.1007/s10551-008-9794-0>.
- Climate Disclosure Standard Board. 2017. “Converging on Climate Risk: CDSB, the SASB, and the TCFD.” Sustainability Accounting Standards Board. Accessed: November 3 2020. <https://www.cdsb.net/sustainability-accounting-standards-board-sasb>
- Contrafatto, M. 2014. “The institutionalization of social and environmental reporting: An Italian narrative.” *Accounting, Organizations and Society*, 39 (6): 414-432. <https://doi.org/10.1016/j.aos.2014.01.002>.
- Cunliffe, A. L. 2008. *Organization Theory*. Thousand Oaks, CA: Sage.
- Dasí Coscollar, Àngels, Consuelo Dolz Dolz, and Esmeralda Linares-Navarro. 2015. “Why do Spanish firms engage in the Global Compact Initiative? An explanation from institutional and social identity theories.” In *The UN Global Compact: Fair Competition and Environmental and Labour Justice in International Markets*, edited by Maria Alejandra Gonzalez-Perez, and Liam Leonard, 123-144. Bingley, UK: Emerald Group Publishing Limited.
- de Colle, S., A. Henriques, and S. Sarasvathy. 2014. “The paradox of corporate social responsibility standards.” *Journal of Business Ethics*, 125 (2): 177-191. <https://doi.org/10.1007/s10551-013-1912-y>.
- de la Fuente Sabaté, J. M., and E. de Quevedo Puente. 2003. “Empirical analysis of the relationship between corporate reputation and financial performance: A survey of the literature.” *Corporate Reputation Review*, 6 (2): 161-177. <https://doi.org/10.1057/palgrave.crr.1540197>.
- de Villiers, C., and U. Sharma. 2017. “A critical reflection on the future of financial, intellectual capital, sustainability and integrated reporting.” *Critical Perspectives on Accounting*, 70: 1-13. <https://doi.org/10.1016/j.cpa.2017.05.003>.
- Dienes, D., R. Sassen, and J. Fischer. 2016. “What are the drivers of sustainability reporting? A systematic review.” *Sustainability Accounting, Management and Policy Journal*, 7 (2): 154-189. <https://doi.org/10.1108/SAMPJ-08-2014-0050>.
- Dwyer, L. 2005. “Relevance of triple bottom line reporting to achievement of sustainable tourism: A scoping study.” *Tourism Review International*, 9 (1): 79-938. <https://doi.org/10.3727/154427205774791726>.
- Eccles, R. G., and D. Saltzman. 2011. “Achieving sustainability through integrated reporting.” *Stanford Social Innovation Review*, 9 (3): 56-61.
- EFAA. 2018. “Survey of Non-Financial Reporting Requirements for SMEs in Europe.” European Federation of Accountants and Auditors for SMEs. Accessed April 5 2020. [https://www.efaa.com/cms/upload/efaa\\_files/pdf/News/20181119\\_NFRbySMEsReport-FINAL.pdf](https://www.efaa.com/cms/upload/efaa_files/pdf/News/20181119_NFRbySMEsReport-FINAL.pdf)
- Elkington, J. 1998. *The Non-Reporting Report: Engaging Stakeholders*. London, UK: SustainAbility and UNEP.
- Epstein, M. J., and M. J. Roy. 2001. “Sustainability in action: Identifying and measuring the key performance drivers.” *Long Range Planning*, 34 (5): 585-604. [https://doi.org/10.1016/S0024-6301\(01\)00084-X](https://doi.org/10.1016/S0024-6301(01)00084-X).
- Ernst and Young. 2019. *Rethinking sustainability. Estudio comparativo de los estados de información no financiera (EINF) del Ibex 35*. Madrid, Spain: Ernst and Young.

- European Commission. 2013. "An analysis of policy references made by large EU companies to internationally recognised CSR guidelines and principles." European Commission. Accessed July 15 2019. [https://ec.europa.eu/enterprise/policies/sustainable-business/files/csr/csr-guide-princ-2013\\_en.pdf](https://ec.europa.eu/enterprise/policies/sustainable-business/files/csr/csr-guide-princ-2013_en.pdf)
- European Commission. 2020. "Consultation strategy for the revision of the Non-Financial Reporting Directive." European Commission. Accessed April 5 2020. <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12129-Revision-of-Non-Financial-Reporting-Directive/public-consultation>
- Fifka, M. S. 2013. "Corporate responsibility reporting and its determinants in comparative perspective—a review of the empirical literature and a meta-analysis." *Business Strategy and the Environment*, 22 (1): 1-35. <https://doi.org/10.1002/bse.729>.
- Gallardo-Vázquez, Dolores, Luis Enrique Valdez Juárez, and Juan de la Cruz Sánchez Domínguez. 2020. "Corporate social responsibility: Benefits and costs of its implementation." In *Conceptual and Theoretical Approaches to Corporate Social Responsibility, Entrepreneurial Orientation, and Financial Performance*, edited by Inna Sousa Paiva, Luísa Cagica Carvalho, 20-48. Hershey, PA: IGI Global.
- Gallén Ortiz, M. L., and B. Giner Inchausti. 2014. "Las memorias de sostenibilidad GRI y los informes de progreso del pacto mundial: una comparación internacional." *Revista de Responsabilidad Social de la Empresa*, 17: 17-34.
- García-Sánchez, I. M., N. Hussain, J. Martínez-Ferrero, and E. Ruiz-Barbadillo. 2019. "Impact of disclosure and assurance quality of corporate sustainability reports on access to finance." *Corporate Social Responsibility and Environmental Management*, 26 (4): 832-848. <https://doi.org/10.1002/csr.1724>.
- Ghadge, A., M. Kaklamanou, S. Choudhary, and M. Bourlakis. 2017. "Implementing environmental practices within the Greek dairy supply chain: Drivers and barriers for SMEs." *Industrial Management and Data Systems*, 117 (9): 1995-2014. <https://doi.org/10.1108/IMDS-07-2016-0270>.
- Glavopoulos, E., S. Bersimis, D. Georgakellos, and M. Sfakianakis. 2014. "Investigating the factors affecting companies' attitudes towards CSR and CER during the fiscal crisis in Greece." *Journal of Environmental Planning and Management*, 57 (11): 1612-1641. <https://doi.org/10.1080/09640568.2013.826577>.
- Gray, Rob, and Jan Bebbington. 2000. "Environmental accounting, managerialism and sustainability: Is the planet safe in the hands of business and accounting?" In *Advances in Environmental Accounting and Management Vol. 1*, edited by Ataur Belal, and Stuart Cooper, 1-44. Bingley, UK: Emerald Group Publishing Limited. [https://doi.org/10.1016/S1479-3598\(00\)01004-9](https://doi.org/10.1016/S1479-3598(00)01004-9).
- Gray, R., D. Owen, and K. Maunders. 1988. "Corporate social reporting: Emerging trends in Accountability and the Social Contract." *Accounting, Auditing and Accountability Journal*, 1 (1): 6-20. <https://doi.org/10.1108/EUM0000000004617>.
- Greenstone. 2014. *Choosing the right Non-Financial Reporting Framework: A Closer Look at the Top 7*. London, UK: Greenstone.
- GRI, and IOE. 2016. "Small business big impact. SME sustainability reporting. From vision to action." GRI and IOE. Accessed July 20 2019. <https://www.globalreporting.org/resourcelibrary>
- GRI. 2019. "Sustainability disclosure database." GRI. Accessed July 15 2019. <https://database.globalreporting.org>
- GRI. 2020. "Competitive business program". GRI. Accessed November 2 2020. <https://www.globalreporting.org/public-policy-partnerships/strategic-partners-programs/competitive-business-program/>

- Gupta, H., and M. K. Barua. 2016. "Identifying enablers of technological innovation for Indian MSMEs using best-worst multi criteria decision making method." *Technological Forecasting and Social Change*, 107: 69-79. <https://doi.org/10.1016/j.techfore.2016.03.028>.
- Hasan, I., N. Kobeisi, L. Liu, and H. Wang. 2018. "Corporate social responsibility and firm financial performance: The mediating role of productivity." *Journal of Business Ethics*, 149 (3): 671-688. <https://doi.org/10.1007/s10551-016-3066-1>.
- Herremans, I. M., J. A. Nazari, and F. Mahmoudian. 2016. "Stakeholder relationships, engagement, and sustainability reporting." *Journal of Business Ethics*, 138 (3): 417-435. <https://doi.org/10.1007/s10551-015-2634-0>.
- Herrera Madueño, J., M. Larrán Jorge, I. Martínez Conesa, and D. Martínez-Martínez. 2016. "Relationship between corporate social responsibility and competitive performance in Spanish SMEs: Empirical evidence from a stakeholders' perspective." *BRQ Business Research Quarterly*, 19 (1): 55-72. <https://doi.org/10.1016/j.brq.2015.06.002>.
- Husillos, J., and M. J. Álvarez-Gil. 2008. "A stakeholder-theory approach to environmental disclosures by small and medium enterprises (SMES)." *Spanish Accounting Review*, 11 (1): 125-156.
- Husillos, J., C. Larrinaga, and M. J. Álvarez-Gil. 2011. "The emergence of triple bottom line reporting in Spain." *Spanish Journal of Finance and Accounting*, 40 (150): 195-219. <https://doi.org/10.1080/02102412.2011.10779701>.
- IFAC (International Federation of Accountants). 2019. "Reporting of Non-Financial Information by SMEs in Europe." IFAC. Accessed November 3 2020. <https://www.ifac.org/knowledge-gateway/contributing-global-economy/discussion/reporting-non-financial-information-smes-europe>
- IIRC. 2020. "Structure of the IIRC." IIRC. Accessed November 3 2020. <https://integratedreporting.org/the-iirc-2/structure-of-the-iirc/>
- Jamali, D., P. Lund-Thomsen, and S. Jeppesen. 2017. "SMEs and CSR in developing countries." *Business and Society*, 56 (1): 11-22. <https://doi.org/10.1177/0007650315571258>.
- Jansson, J., J. Nilsson, F. Modig, and G. Hed Vall. 2017. "Commitment to sustainability in small and medium-sized enterprises: The influence of strategic orientations and management values." *Business Strategy and the Environment*, 26 (1): 69-83. <https://doi.org/10.1002/bse.1901>.
- Jensen, J. C., and N. Berg. 2012. "Determinants of traditional sustainability reporting versus integrated reporting. An institutionalist approach." *Business Strategy and the Environment*, 21 (5): 299-316. <https://doi.org/10.1002/bse.740>.
- Kim, Y., M. S., Park, and B. Wier. 2012. "Is earning quality associated with corporate social responsibility?" *Accounting Review*, 87 (3): 761-796. <https://doi.org/10.2308/accr-10209>.
- KPMG. 2017. *KPMG International Survey of Corporate Responsibility Reporting. 2017*. KPMG International. Amsterdam, Netherlands: KPMG.
- Kurucz, Elizabeth. C., Barry A. Colbert, and David Wheeler. 2008. "The business case for corporate social responsibility." In *The Oxford Handbook of Corporate Social Responsibility*, edited by Andrew Crane, Dirk Matten, Abigail McWilliams, Jeremy Moon, and Donald S. Siegel, 83-112. Oxford, UK: Oxford University Press.
- Laszlo, Christopher, and Nadya Zhexembayeva. 2011. *Embedded Sustainability. The Next Big Competitive Advantage*. Stanford, CA: Stanford Business Books.
- Lisi, I. E. 2015. "Translating environmental motivations into performance: The role of environmental performance measurement systems." *Management Accounting Research*, 29: 27-44. <https://doi.org/10.1016/j.mar.2015.06.001>.



- Luque-Vílchez, M., E. Mesa-Pérez, J. Husillos, and C. Larrinaga. 2019. "The influence of pro-environmental managers' personal values on environmental disclosure: The mediating role of the environmental organizational structure." *Sustainability Accounting, Management and Policy Journal*, 10 (1): 41-61. <https://doi.org/10.1108/SAMPJ-01-2018-0016>.
- Malesios, C., A. Skouloudis, P. K. Dey, F. B. Abdelaziz, A. Kantartzis, and K. Evangelinos. 2018. "Impact of small-and medium-sized enterprises sustainability practices and performance on economic growth from a managerial perspective: Modeling considerations and empirical analysis results." *Business Strategy and the Environment*, 27 (7): 960-972. <https://doi.org/10.1002/bse.2045>.
- Moneva, J. M., and J. Hernández-Pajares. 2018. "Corporate social responsibility performance and sustainability reporting in SMEs: an analysis of owner-managers' perceptions." *International Journal of Sustainable Economy*, 10 (4): 405-420. <https://doi.org/10.1504/IJSE.2018.10015337>.
- Nikolaeva, R., and M. Bicho. 2011. "The role of institutional and reputational factors in the voluntary adoption of corporate social responsibility standards." *Journal of the Academy of Marketing Science*, 39 (1): 136-157. <https://doi.org/10.1007/s11747-010-0214-5>.
- Odrizola, M. D., and E. Baraibar-Diez. 2017. "Is Corporate Reputation Associated with Quality of SR Reporting? Evidence from Spain." *Corporate Social Responsibility and Environmental Management*, 24 (2): 121-132. <https://doi.org/10.1002/csr.1399>.
- Ordonez-Ponce, E., and A. Khare. 2020. "GRI 300 as a measurement tool for the United Nations sustainable development goals: assessing the impact of car makers on sustainability." *Journal of Environmental Planning and Management*, 1-29. <https://doi.org/10.1080/09640568.2020.1746906>.
- Parsa, S., and R. Kouhy. 2008. "Social reporting by companies listed on the alternative investment market." *Journal of Business Ethics*, 79 (3): 345-360. <https://doi.org/10.1007/s10551-007-9402>.
- Perez-Batres, L. A., J. P. Doh, V. V. Miller, and M. J. Pisani. 2012. "Stakeholder pressures as determinants of CSR strategic choice: Why do firms choose symbolic versus substantive self-regulatory codes of conduct?" *Journal of Business Ethics*, 110 (2): 157-172. <https://doi.org/10.1007/s10551-012-1419-y>.
- Raj, A., and S. K. Srivastava. 2018. "Sustainability performance assessment of an aircraft manufacturing firm." *Benchmarking: an International Journal*, 25 (5): 1500-1527. <https://doi.org/10.1108/BIJ-01-2017-0001>.
- Rasche, A. 2009. "Toward a model to compare and analyze accountability standards—The case of the UN Global Compact." *Corporate Social Responsibility and Environmental Management*, 16 (4): 192-205. <https://doi.org/10.1002/csr.202>.
- Revell, A., D. Stokes, and H. Chen. 2010. "Small businesses and the environment: turning over a new leaf?" *Business Strategy and the Environment*, 19 (5): 273-288. <https://doi.org/10.1002/bse.628>.
- Rezaei, J. 2015. "Best-worst multi-criteria decision-making method." *Omega*, 53: 49-57. <https://doi.org/10.1016/j.omega.2014.11.009>.
- Rezaei, J. 2016. "Best-worst multi-criteria decision-making method: Some properties and a linear model." *Omega*, 64: 126-130. <https://doi.org/10.1016/j.omega.2015.12.001>.
- Rezaei, J., T. Nispeling, J. Sarkis, and L. Tavasszy. 2016. "A supplier selection life cycle approach integrating traditional and environmental criteria using the best worst method." *Journal of Cleaner Production*, 135 (1): 577-588. <https://doi.org/10.1016/j.jclepro.2016.06.125>.

- Rivera-Lirio, J. M. and M. J. Muñoz-Torres. 2010. "Sustainable development in the Spanish region of Valencia and the social responsibility of SMEs. A multi-stakeholder vision on the role of public administrations." *Journal of Environmental Planning and Management*, 53 (5): 573-590, <https://doi.org/10.1080/09640561003694419>.
- Salimi, N., and J. Rezaei. 2018. "Evaluating firms' R and D performance using best worst method." *Evaluation and Program Planning*, 66: 147-155. <https://doi.org/10.1016/j.evalprogplan.2017.10.002>.
- Scagnelli, Simone Domenico, Laura Corazza, and Maurizio Cisi. 2013. "How SMEs disclose their sustainability performance. Which variables influence the choice of reporting guidelines?" In *Accounting and Control for Sustainability*, edited by Lucrezia Songini, Anna Pistoni, and Christian Herzig, 77-114. Bingley, UK: Emerald Group Publishing Limited.
- Skouloudis, A., and K. Evangelinos. 2012. "A research design for mapping national CSR terrains." *International Journal of Sustainable Development & World Ecology*, 19 (2): 130-143. <https://doi.org/10.1080/13504509.2011.606338>.
- Skouloudis, A., K. Jones, E. Sfakianaki, E. Lazoudi, and K. Evangelinos. 2013. "EMAS statement: Benign accountability or wishful thinking? Insights from the Greek EMAS registry." *Journal of environmental management*, 128 (15): 1043-1049. <https://doi.org/10.1016/j.jenvman.2013.06.057>.
- Spence L. J., R. Jeurissen, and R. Rutherford. 2000. "Small Business and the Environment in the UK and the Netherlands: Toward Stakeholder Cooperation." *Business Ethics Quarterly*, 10 (4), 945-965. <https://doi.org/10.2307/3857841>.
- Tan, Y., J. J. Ochoa, C. Langston, and L. Shen. 2015. "An empirical study on the relationship between sustainability performance and business competitiveness of international construction contractors." *Journal of Cleaner Production*, 93: 273-278. <https://doi.org/10.1016/j.jclepro.2015.01.034>.
- Testa, F., N. M. Gusmerottia, F. Corsini, E. Passetti, and F. Iraldo. 2016. "Factors affecting environmental management by small and micro firms: The importance of entrepreneurs' attitudes and environmental investment." *Corporate Social Responsibility and Environmental Management*, 23 (6): 373-385. <https://doi.org/10.1002/csr.1382>.
- Tran, A. N., and S. Jeppesen. 2016. "SMEs in their own right: The views of managers and workers in Vietnamese textiles, garment, and footwear companies." *Journal of Business Ethics*, 137: 589-608. <https://doi.org/10.1007/s10551-015-2572-x>.
- Tschopp, D., and M. Nastanski. 2014. "The harmonization and convergence of corporate social responsibility reporting standards." *Journal of Business Ethics*, 125: 147-162. <https://doi.org/10.1007/s10551-013-1906-9>.
- Turban, D. B., and D. W. Greening. 1997. "Corporate social performance and organizational attractiveness to prospective employees." *Academy of Management Journal*, 40 (3): 658-672. <https://doi.org/10.5465/257057>.
- UNGC. 2017. *United Nations Global Compact Progress Report 2017*. New York: United Nations Department of Public Information.
- UNGC. 2018. United Nations Global Compact. "Our participants." UNGC. Accessed December 1 2019. <https://www.unglobalcompact.org/what-is-gc/participants>
- UNGC. 2019. *United Nations Global Compact Progress Report 2019*. New York: United Nations Department of Public Information.
- UNGC. 2020a. "What is Global Compact." UNGC. Accessed November 2 2020. <https://www.unglobalcompact.org/engage-locally/manage/reports>

- UNGC. 2020b. "About the UN Global Compact." UNGC. Accessed November 3 2020. <https://www.unglobalcompact.org/about>
- van de Kaa, G., L. Kamp, and J. Rezaei. 2017. "Selection of biomass thermochemical conversion in the Netherlands: A best worst method approach." *Journal of Cleaner Production*, 166: 32-39. <https://doi.org/10.1016/j.jclepro.2017.07.052>.
- van de Kaa, G., M. van Ek, L. Kamp, and J. Rezaei. 2020. "Wind turbine technology battles: Gearbox versus direct drive - opening up the black box of technology characteristics." *Technological Forecasting and Social Change*, 153: 1-7. <https://doi.org/10.1016/j.techfore.2020.119933>.
- Weber, M. 2008. "The business case for corporate social responsibility: A company-level measurement approach for CSR." *European Management Journal*, 26 (4): 247-261. <https://doi.org/10.1016/j.emj.2008.01.006>.
- Yadav, N., K. Gupta, L. Rani, and D. Rawat. 2018. "Drivers of sustainability practices and SMEs: A systematic literature review." *European Journal of Sustainable Development*, 7 (4): 531-544. <https://doi.org/10.14207/ejsd.2018.v7n4p531>.