The role of social entrepreneurship in the attainment of the sustainable development goals

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ABSTRACT

Despite the efforts undertaken by the United Nations to engage all public and private actors towards the achievement of the 2030 Agenda, the contribution of traditional businesses has been proved to be insufficient so far. Social enterprises have thus emerged as an efficient alternative to meet social needs through entrepreneurial opportunities. However, the absence of specific tools to appraise the impact of social businesses on the fulfilment of the Sustainable Development Goals (SDGs) is a gap that this research aims to bridge by developing a novel rating system. A three-round Delphi process has been conducted by two panels of experts to identify the SDG indicators applicable to social enterprises as the main components of a three-tier framework whose weighting factors were obtained by using the Best-Worst Method after circulating a questionnaire among 100 participants. The new tool comprises a set of 28 indicators selected by the surveyed experts representing 12 SDGs, where the weight of social facet (65.3%) prevailed over those of other sustainability dimensions. The weighted sum of indicator values enables to assess the impact of enterprise activities on the SDGs. Mondragon Corporation, a leading Spanish cooperative worldwide, has been deemed as a case study for this new system.

1. Introduction

Sustainable development seeks economic growth to achieve social progress without harming the environment through the principal support of institutions (Diaz-Sarachaga, 2021). Diverse global endeavors have been hitherto performed by the international community to this end (Sullivan, Thomas, & Rosano, 2018). In this vein, 193 countries adopted the 2030 Agenda in September 2015 as a framework that encompasses 17 Sustainable Development Goals (SDGs) to be reached by 2030 with the purpose of moving social, economic, environmental and governance dimensions forward (UN, United Nations, 2015). Nevertheless, this prominent initiative also entails the involvement of non-public actors and more specifically private companies (Morioka & Carvalho, 2016). Under this premise, the multidimensional approach of social entrepreneurship helps to incorporate business activities into the road map towards sustainability (Mort, & Weerawardena, 2006; Rahdari et al., 2016). Social entrepreneurship is defined as the joint creation of value in social and environmental terms beyond the mere profit maximization (Haugh & Talwar, 2016; Del Gesso, 2020) that enables to address some key issues, inter alia, poverty, unemployment, gender inequalities, social exclusion, and environmental protection (Zhang &

Swanson, 2013; Šimundža et al., 2016).

The contribution of social enterprises to face current economic and environmental challenges is on the rise (Dwivedi & Weerawardena, 2018; Hota et al., 2020). The analysis of more than a thousand social enterprises in 2015 in nine OECD countries showed revenues exceeding EUR 6 billion and a job creation of about 6 million individuals, among them around half a million people from vulnerable groups (OECD, 2017). Social enterprises account for 3 % and 8 % of the Gross Domestic Product (GDP) in Australia and the European Union (EU, 2021), whilst Canada will reach 4 % of the GDP in the next decade (UN, 2020a). Despite the development of several indicators and frameworks, the measurement of social impact is still a pending issue that remains unsettled (Roundy et al., 2018) and hinders to determine the precise role of social enterprises in the attainment of the SDGs (Veronica et al., 2020). The European Social Enterprise Monitor Report 2020–2021 (Dupain et al., 2021) revealed that less than 60 % of social enterprises assess their impact targets, but only 40 % examine the SDGs in that analysis. However, both the effect of companýs activities on social changes and the achievement of the SDGs are not estimated (Rawhouser et al., 2019). With the target of filling this gap (Jerven, 2017), this research aims at building a new assessment system grounded on the 2030 Agenda to be

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applied to assorted types of social entrepreneurship.

This investigation represents an opportunity to fuel the debate on the protagonism of social entrepreneurship as a crucial component of business activities towards sustainable development (Mair & Marti, 2006), in contrast to the general perception that social enterprises are a residual expression of business (Rey-Martí et al., 2016). From a theoretical perspective, the methodology designed serves to link a comprehensive concept as social entrepreneurship to a global initiative as the 2030 Agenda with practical implications. The novel rating system thus provides a valuable instrument to assess the contribution of those organizations in the fulfillment of the SDGs, which would allow them to adjust and enhance their corporate strategy.

The structure of the manuscript comprises four additional sections. After reviewing the extant literature in the field, the third section depicts the methodology followed in the research. The development of the new assessment framework and its application to a case study are covered in the subsequent section. And lastly, main conclusions are summarized.

2. Social entrepreneurship: Concept and measurement

Social entrepreneurship has been associated with Ashoka (García-Jurado et al., 2021), a pioneering organization launched in 1980 to support social entrepreneurs. Ashoka is focused on the pursuit of system-changing solutions to face global problems (Ashoka, 2022) resulting from the dearth of effective responses from governments (Dufays & Huybrechts, 2014) to unmet social gaps (Hill et al., 2010). Diverse approaches are necessary to characterize the concept of social entrepreneurship (Mort, Weerawardena, & Carnegie, 2002) that also involves other sub-concepts (Choi & Majumdar, 2014) such as social innovation (Dawson & Daniel, 2010), proactiveness (Lumpkin et al., 2013) or social value (Alvord et al., 2004). A long-term vision distinguishes social enterprises that seek to embed social values in their organizations (Douglas & Prentice, 2019). Furthermore, social entrepreneurship connects the public and private sphere by mobilizing private resources to provide public welfare (Battilana, Sengul, Pache, & Model, 2015; Chandra et al., 2021). This willingness towards the provision of social good to others is known as *"prosocial attitude"* (Bacq, & Alt, 2018).

Social entrepreneurship utilizes business principles to cause social impacts (Thompson & Doherty, 2006; Wolk, 2008), for which social value is created by means of innovative solutions that require scant resources (Peredo & McLean, 2006). Social value creation is a distinctive feature between social and commercial enterprises (Cherrier et al., 2018) that implies fairness, honesty, altruism, freedom, and equality (Murphy & Coombes, 2009). Two types of social enterprises are categorized by Yunus et al. (2010) in this context: Type 1 is exclusively focused on achieving social goals, whilst Type 2 maximizes profits to be allocated for social purpose (Schieffer & Lessem, 2009). But the consideration of social enterprises only as nonprofit organizations (Lasprogata and Cotten, 2003; Kusa, 2016) by denying their hybrid nature may limit the domain of social entrepreneurship and ignore the protagonism of other forms of organizations (Pless, 2012).

Social innovation encompasses innovative activities and services conducted by enterprises with a social aim (Halberstadt et al., 2021) and therefore, it engages people benefited by social good (Phillips et al., 2015). Social entrepreneurship is deemed as a change driver that leads an ongoing process of innovation to meet societal challenges (Segarra-Oña et al., 2017). This approach highlights the proactive nature of social enterprises that seek transformations in a rapid and effective manner (Kuratko et al., 2017) and to be leaders on a specific social issue (Dees, 2012). In this vein, there are some examples of social businesses aligned to the achievement of the SDGs, inter alia, AfriKids (SDG1: No poverty), Alive and Kicking (SDG3: Good health and wellbeing), Afripads (SDG5: Gender equality), Biolite (SDG7: Affordable and clean energy) or Aduna (SDG8: Decent work and economic growth).

The tie between social entrepreneurship and sustainable development has been mostly examined using the measurement of social impact (Haldar, 2019) through several methods and tools (Kraus, Niemand, Halberstadt, Shaw, & Syrjä, 2017). The Social Return on Investment model defines a ratio between the return on investment of the enterprise and the value of its initiatives to promote social good (Moody, Littlepage, & Paydar, 2015; Walk, Greenspan, Crossley, & Handy, 2015). In the same line, other models referred to the cost were prescribed such as cost-benefit analysis, cost-effective analysis, and cost per impact analysis. The Balanced Scorecard studies enterprises from different perspectives (mission and vision, financial, stakeholders' management, internal organization and so on) to determine their operational effectiveness (Kaplan, & Norton, 1996). This framework was later enhanced to reflect the aims and achievements of social enterprises by releasing the Social Enterprise Balanced Scorecard (Kaplan, & Norton, 2001). Impact assessment and strategic decision-making process in enterprises are combined in the Social Impact Measurement of Social Enterprises (McLoughlin et al., 2009). The Best Available Charitable Option methodology quantifies the potential investment social impact and compares it to other extant charitable options for an explicit social issue (Acumen Fund, 2007). The broad variety of existing methods hinders the analysis of performance and benchmarking among enterprises (Short, Moss, & Lumpkin, 2009).

The UN General Assembly acknowledged in its resolution 73/225 the outstanding role of entrepreneurship and more specifically, social entrepreneurship as a driver of sustainable development and the 2030 Agenda by fostering inclusive growth, increasing employment, combating social inequalities and facing major social and environmental issues (UN, United Nations, 2020b). But even so, the contribution of social enterprises to the achievement of the 2030 Agenda is a domain still scarcely explored. Sonen capital (2016) developed a framework to help investors interested in social enterprises by selecting from the IRIS catalogue (IRIS, 2022) all impact investment metrics aligned to the SDGs. UNIDO United Nations Industrial Development Organization (2018) appraised 30 social enterprises to determine their level of coverage of the SDGs. However, the impact of the activities of social enterprises on the fulfillment of the SDGs has not been analyzed yet. This research aims at filling this gap by proposing a framework that guides strategies and actions of social enterprises towards the 2030 Agenda.

3. Methodology

The methodology proposed consists of four main stages as shown in Fig. 1. Firstly, the salient points of the SDGs to be included in the evaluation tool were selected. Secondly, a multi-criteria decision-making method (MCDM) was considered to determine the weighting factors of the selected components. The determination of scoring and the achievement thresholds was examined in the third phase. Lastly, the framework was applied to a case study as Mondragon Corporation.

3.1. Identification of the constituents of the assessment framework

The Delphi technique was employed in the research as a specific participatory process to reach active engagement of all members of a structured group in a decision-making process (Dalkey & Helmer, 1963). Online meetings were held due to the restrictions derived from coronavirus. Two panels of three individuals each coordinated by two facilitators were thus formed to ascertain which of the SDGs and SDG indicators should be part of the framework. A director of a trading arm of a charity, a scholar specialized in social entrepreneurship and a manager of a non-governmental organization were appointed as members of the first working team. According to the principles of the snowball sampling technique (Goodman, 1961), those panelists invited three additional practitioners to constitute the second panel on behalf of several types of social entrepreneurship such as a housing association, an agricultural cooperative, and a B Corp Certified company.

Three rounds of meetings were organized to conduct the study. A preliminary list of SDGs and related SDG indicators were shortlisted by
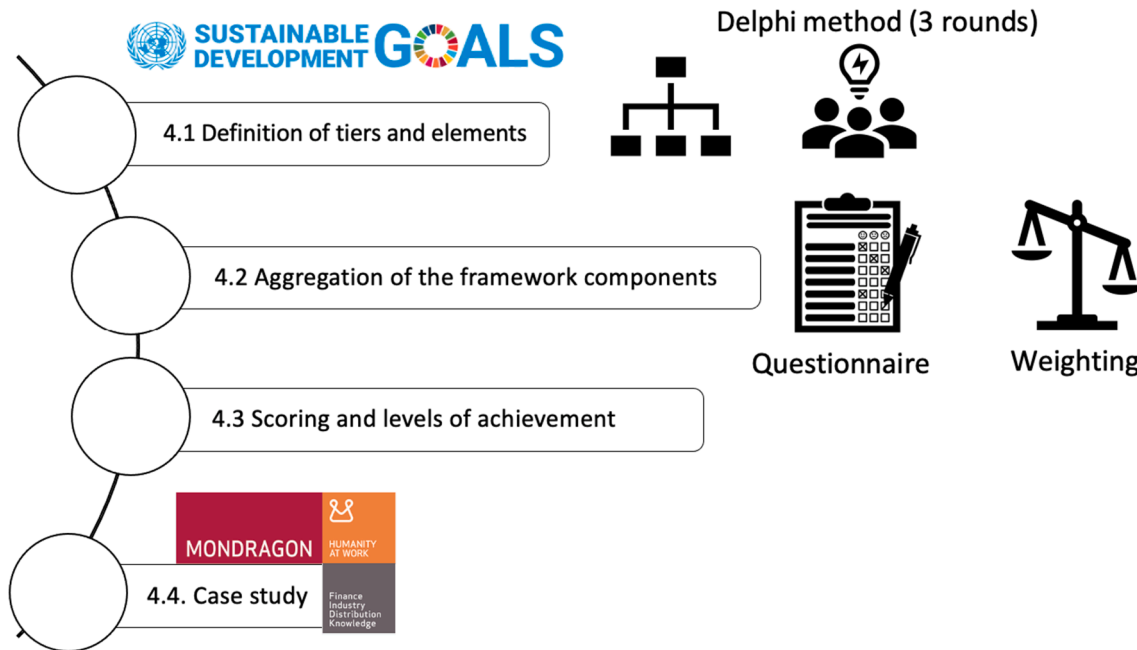
Fig. 1. The tiered methodology envisaged for the creation of the tool to gauge social enterprises.

each panel during the first session. The second round was divided into two parts. A joint meeting of both groups served to specify the final elements of the system within the first half, whilst the description of the SDG indicators was rewritten by each team to be better adapted to the context of the social entrepreneurship in the remaining session. The two groups worked together in the last round to reach ultimate agreement on the refinement of the scope of the SDG indicators selected and define scoring criteria and levels of achievement for social enterprises.

Three conditions were drawn up to incorporate metrics into the tool. The SDG indicators should be pertinent to any model of social entrepreneurship. Besides, they should affect more than one in the four sustainability dimensions (social, economic, environmental, and governance) given that the primary objective of social enterprises is combining the achievement of social goals and economic gains (Zhang & Swanson, 2014). Finally, corporate disclosure should provide information to measure and track SDG indicators.

3.2. Application of a multi-criteria decision-making method to determine weighting factors

Rezaei (2016) equates the building of a rating system with a multi-criteria decision analysis where the best alternative is recognized, or a set of different alternatives are graded. The four sustainability facets, the SDGs and the related SDG indicators designated configure the three tiers of the decision tree. Best-Worst Method (BWM) was utilized to allocate weighting factors for the components of each level (Rezaei, 2015) due to its simplicity and higher reliability of results in comparison with other renowned approaches such as Analytic Hierarchy Process (AHP), Élimination et Choix Traduisant la REalité (ÉLECTRE), VIseKriterijumska Optimizacija I Kompromisno Resenje (VIKOR), Preference Ranking Organization METHod for Enrichment of Evaluations (PROMETHEE), and so on. An online survey distributed between Spanish experts and practitioners in the field of social entrepreneurship provided pairwise comparisons between the Best and the Worst criteria specified and the remaining criteria. The questionnaire was circulated by email among a hundred of Spanish participants over the first fortnight of January 2022. Of the 51 surveys returned, only 47 were fully replied. The response rate (47 %) is acceptable in line with Keeney (2015). Representatives of cooperatives (15) and non-governmental

organizations (14) prevailed among respondents followed by scholars (8), members of charities (7) and housing associations (3). As regards the gender breakdown, women accounted for 40 % of all participants in comparison to 60 % of men. Weighting factors were calculated by solving a maximin problem which serve to aggregate the elements of each level of the framework and therefore score alternatives.

Decision criteria $\{C_1, C_2, \ldots, C_n\}$ are set in the early phase of BWM, whilst the Best and the Worst criteria are pinpointed later by respondents. The Best-to-Others (see Equation (1)) and the Others-to-Worst (see Equation (2)) vectors are determined by rating the preference of the Best criterion over all the other criteria and all the criteria over the Worst criterion on a 1–9 Likert scale. The highest score is granted for the Best criterion and contrariwise, the Worst criterion receives the lowest grade.

$$A_B = (a_{B1}, a_{B2}, \cdots, a_{Bn}) \tag{1}$$

where a_{Bj} reflects the preference of the Best criterion B over criterion j, being $a_{BB} = 1$.

$$A_W = (a_{1W}, a_{2W}, \cdots, a_{nW}) \tag{2}$$

where a_{jW} shows the preference of the criterion j over the Worst criterion W, being $a_{WW} = 1$.

Optimal weight for criteria ($w_1^*, w_2^*, \ldots, w_n^*$) is found when for each pair of w_B/w_j and $w_j/w_W \Rightarrow w_B/w_j = a_{Bj}$ and $w_j/w_W = a_{jW}$, and the consistency index (CI) is minimized (see Equation (3)):

$$\left| \frac{w_B}{w_j} - a_{Bj} \right| \leq \text{CI for all } j \tag{3}$$

$$\left| \frac{w_j}{w_W} - a_{jW} \right| \leq \text{CI for all } j$$

$$\sum_{j=1}^{n} w_j^* = 1$$

$$w_j^* \geq 0 \text{ for all } j$$

CI lower than 1 and closer to 0

Weighting factors were obtained by solving Equation (3) with Solver, an Excel add-in. The rating of the social enterprise that displays its alignment to the fulfillment of the SDGs is formulated in Equation (4), where Score$_{ikl}$ represents the grade of the SDG indicator$_l$ of the SDG$_k$, w_i^* and w_{ik}^* are respectively the weighting factors assigned to each sustainability dimension and their SDGs associated, for i = social, economic, environmental and governance, and $k = 1$ to m (the amount of SDGs linked to each sustainability facet). W_{ikl}^* is the weighting factor of each SDG indicator$_l$ of the SDG$_k$ for $l = 1$ to n (the number of SDG indicators for each SDG$_k$).

$$\text{Rating} = 100 * \sum_{i=1}^{soc,econ,env,gov} w_i^* \left[\sum_{k=1}^{m} w_{ik}^* * \left(\sum_{l=1}^{n} w_{ikl}^* * \text{Score}_{ikl} \right) \right] \quad (4)$$

3.3. Scoring and levels of achievement

The alignment of company practices and policies to the fulfillment of the 2030 Agenda is appraised by the metrics contained in the framework. A binary step function is assigned to score each indicator. The function produces 1 when the company meets the scope described herein, otherwise it produces 0. The rating system defines three levels of performance: *"not aligned"*, *"aligned"*, and *"very aligned"* according to the attainment of a set of indicators previously determined by panelists.

3.4. Case study

A leading Spanish social enterprise was used to apply the new assessment framework in order to determine its engagement with the 2030 Agenda. Several criteria were established to shortlist the company under study such as a strong focus on social issues, a minimum of 10 years in the field of social entrepreneurship, international implementation in at least two continents and a wide range of activity sectors. Compliance with minimum requirements defined by panelists as the *"aligned"* threshold can be considered as adequate. Besides, the analysis of the corporate performance in the four sustainability aspects was also explored.

The application of the rating system to a large number of companies involved in social entrepreneurship would enable the allocation of a determined score to each business evaluated. Scoring could help to rank social enterprises according to different preferences: overall ranking, by category, by country and so on.

4. Results

Findings resulting from the implementation of the methodology previously depicted are presented as follows.

4.1. Defining the components of the rating system

As part of the Delphi study, diverse online meetings were conducted throughout December 2021. Despite panelists aimed to cover the 17 SDGs, a primary inventory of 57 metrics representing only 16 SDGs was agreed in the first round after reviewing the list of all SDG indicators currently in force (UNSTATS, United Nations Statistics Division, 2022). Nevertheless, the second round concluded the reduction of the catalogue to 28 indicators on behalf of 12 SDGs as shown in Table 1. SDG3: Good health & well-being, SDG6: Clean water and sanitation, SDG7: Affordable and clean energy, SDG13: Climate action and SDG 14: Life below water were thus disregarded. In percentage terms, SDG12: Responsible consumption and production, SDG8: Decent work and economic growth and SDG17: Partnerships for the goals were the most well-regarded SDGs with respectively 33, 25 and 20 percent of the total indicators covered (see Fig. 2).

The adaptation of the original scope of the SDG indicators approved by the United Nations in September 2015 to the business context was a

Table 1
SDG indicators appointed in the two first Delphi rounds.

SDG #	SDG Indicators (1st round)	SDG Indicators (2nd round)
1.- No poverty	1.3.1., 1.5.1., 1.A.1. 1.A.2., 1.B.1.	1.5.1.
2.- Zero hunger	2.4.1., 2.A.2.	2.4.1.
3.- Good health & well-being	3.5.1., 3.8.1., 3.B.2.	
4.- Quality education	4.2.2., 4.7.1., 4.A.1., 4.B.1.	4.A.1.
5.- Gender equality	5.1.1., 5.4.1., 5.5.2., 5.C.1.	5.4.1., 5.5.2.
6.- Clean water and sanitation	6.A.1.	
7.- Affordable and clean energy	7.2.1.	
8.- Decent work and economic growth	8.3.1., 8.5.1., 8.7.1. 8.8.2., 8.B.1.	8.3.1., 8.5.1., 8.7.1., 8.B.1.
9.- Industry, innovation, and infrastructure	9.5.1., 9.A.1.	9.5.1., 9.A.1.
10.- Reduced inequalities	10.5.1., 10.B.1.	10.B.1.
11.- Sustainable cities and communities	11.1.1., 11.3.2., 11.4.1. 11.7.2., 11.C.1.	11.1.1., 11.7.2., 11.C.1.
12.- Responsible consumption and production	12.1.1., 12.2.1., 12.5.1., 12.6.1., 12.7.1., 12.8.1., 12.A.1.	12.5.1., 12.7.1., 12.8.1., 12.A.1.
13.- Climate action		
14.- Life below water	14.3.1., 14.A.1.	
15.- Life on land	15.2.1., 15.6.1., 15.B.1.	15.2.1.
16.- Peace, justice, and strong institutions	16.4.1., 16.5.1., 16.7.2., 16.10.2., 16.B.1.	16.5.1., 16.7.2., 16.B.1.
17.- Partnerships for the goals	17.2.1., 17.6.1., 17.7.1., 17.14.1., 17.16.1., 17.18.1.	17.2.1., 17.6.1., 17.7.1., 17.14.1, 17.18.1

time-consuming task which took large portion of the second round and three sessions of the last one to complete the building of the system. The greatest difficulty lied in rewriting the extent of the new metrics in correspondence with the spirit of the SDG indicators to be gauged by a binary step function. Hence, 0 or 1 points are allocated depending on whether the examined company meets or not the requirements of metrics. The final description settled of indicators is summarized in Table 2.

4.2. Aggregation: Calculation of weighting factors

The rating system envisages three hierarchical levels: sustainability dimensions, SDGs, and SDG indicators. Social facet encompasses SDG1, SDG2, SDG3, SDG4, SDG5 and SDG11, whilst environmental aspect brings together SDG6, SDG12, SDG13, SDG14 and SDG15, and governance is epitomized by SDG16 and SDG17. Furthermore, SDG7, SDG8, SDG9 and SDG10 cover the economic realm.

The Worst and Best criteria were rated from 1 to 9 points by respondents of the electronic questionnaire. Average rounded scores are illustrated in Table 3 and Table 4. Due to the fact that governance and social dimensions were finally represented by two SDGs (see Table 1), the BWM was not applicable to them. Instead, respondents directly scored each SDG by using the same 1–9 scale and the resulting percentages correspond to their respective weighting factors. The same principle was used for the SDGs that contain only two SDG indicators.

Social dimension received the maximum score from respondents (358) in contrast to the economic aspect (173). Governance and environmental fields had a rate of 262 and 215, respectively. Although the preference given to governance was not the greatest, the largest number of SDG indicators belongs to this dimension, demonstrating the importance attached to managerial measures (Gupta et al., 2020). The SDG8: Decent work and economic growth was the most preferred SDG in the economic dimension. On the other hand, SDG10: Reduced inequalities was the least appreciated. Regarding the social facet, the SDG1: No poverty and the SDG 11: Sustainable cities and communities were the most and the least valued SDGs.

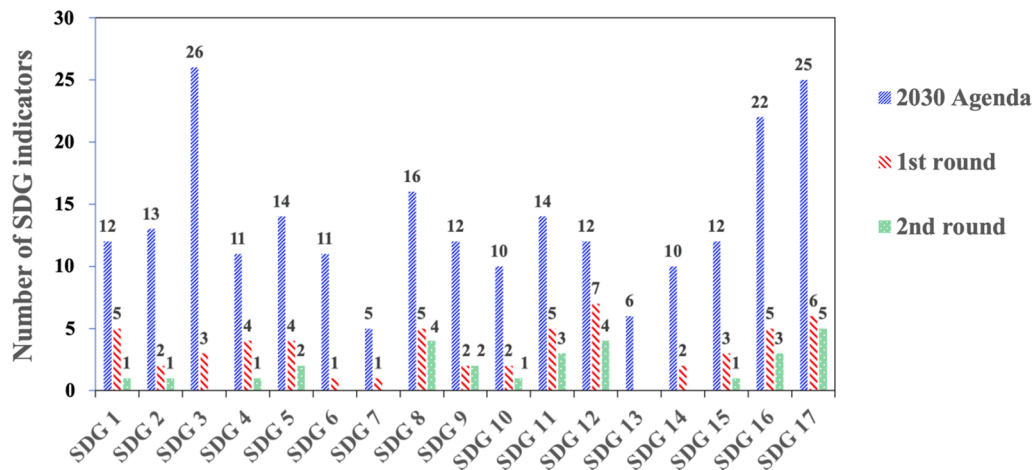When referring to decent work and economic growth, the SDG 8.B.1:

Fig. 2. Distribution of the selected indicators per SDG.

Table 2
Depiction of the definitive indicators.

SDG Indicator	Description
1.5.1.	Contribution to the remediation of damages due to hazards
2.4.1.	Promotion of sustainable agriculture
4.A.1.	Donor of resources for educational purposes
5.4.1.	Programs for family conciliation
5.5.2.	Parity between men and women in senior positions
8.3.1.	Plans for the prevention of informal employment
8.5.1.	Plans to support families with disabled people
8.7.1.	Plans to the prevention of child labor
8.B.1.	Resources for social protection
9.5.1.	Resources for research and development
9.A.1.	Resources for development of infrastructure
10.B.1.	Resources devoted for development assistance
11.1.1.	Resources allocated to prevent informal settlements or slums
11.7.2.	Plans to prevent physical or sexual harassment
11.C.1.	Resources for the construction and retrofitting of sustainable buildings
12.5.1.	Plans for recycling and reusing materials
12.7.1.	Implementation of sustainable procurement policies
12.8.1.	Promotion of education for sustainable development
12.A.1.	Resources for research and development for sustainable consumption and production
15.2.1.	Resources allocated to sustainable forest management
16.5.1.	Adoption of measures to prevent bribery
16.7.2.	Adoption of policies to ensure that decision-making is inclusive and responsive
16.B.1.	Adoption of measures to prevent discrimination and/or harassment
17.2.1.	Resources devoted for development
17.6.1.	Resources for research and technology
17.7.1.	Funding to promote the development, transfer, and diffusion of environmentally sound technologies
17.14.1.	Promotion of sustainable development
17.18.1.	Development of financial indicators

Resources for social protection captured the highest attention from contestants, unlike the SDG 8.7.1: Plans to the prevention of child labor. The SDG 11.7.2: Plans to prevent physical or sexual harassment was deemed as the Best criterion in terms of sustainable cities and communities, but SDG 11.C.1: Resources for the construction and retrofitting of sustainable buildings was barely rated. Plans for recycling and reusing materials (SDG 12.5.1.) was the most scored metric related to responsible consumption and production, in detriment of the SDG 12.8.1: Promotion of education for sustainable development. The prevention of discrimination and/or harassment (SDG 16.B.1.) was the Best criterion of peace, justice and strong institutions, whilst the adoption of policies to ensure that decision-making is inclusive and responsive (SDG 16.7.2.) was designated as the Worst criterion. About partnerships for goals, the

Table 3
Best to Others and Others to Worst preference given to the sustainability dimensions and their components.

	Social	Economic	Environmental	Governance
Social (Best) to Others	1	6	8	5
Others to Economic (Worst)	9	1	3	4
Consistency Index: 0.163265306				

Economic dimension: SDG7, SDG8, SDG9, SDG10

	SDG8	SDG9	SDG10
SDG8 (Best) to Others	1	2	7
Others to SDG10 (Worst)	5	6	1
Consistency Index: 0.145833333			

Social dimension: SDG1, SDG2, SDG4, SDG5, SDG11

SDG1	SDG2	SDG4	SDG5	SDG11
1	2	4	6	8
9	7	8	6	1
Consistency Index: 0.14457831				

Description of the 9-point Likert scale. 1: equal importance, 2: somewhat between equal and moderate, 3: moderately more important, 4: somewhat between moderate and strong, 5: strongly more important, 6: somewhat between strong and very strong, 7: very strongly important, 8: somewhat between very strong and absolute, 9: absolutely more important.

SDG 17.7.1: Funding to promote the development, transfer and diffusion of environmentally sound technologies was the top-rated indicator rather than the SDG 17.18.1: Development of financial indicators with the lowest score.

Scores included in Table 3 and Table 4 were processed using Solver, an Excel add-in to obtain the weighting factors assigned to each component of the three hierarchical levels of the new assessment framework (see Table 5). Weights are consistent, since the values of the consistency index are within the tolerance range of the BWM method.

Preceding governance (16.3 %), social facet got the greatest weighting value (65.3 %) which recognizes the salience of social dimension given by respondents that is coherent with the main purpose of social entrepreneurship (Ahmed et al., 2021). On the contrary, environmental (10.2 %) and economic (8.2 %) fields were the least weighted. Weighting factors of the two SDGs contained in governance and environmental aspects were determined proportionally to the score received: SDG16 (59.3 %) and SDG17 (40.7 %) for the former and SDG12 (11.6 %) and SDG15 (88.4 %) for the latter. A weight of 100 % was allocated to single indicators of the SDGs.

SDG1: No poverty (43.4 %) and SDG11: Sustainable cities and communities (3.6 %) displayed respectively the highest and the lowest

Table 4
Best to Others and Others to Worst preference given to the SDG indicators proposed.

SDG8: Decent work and economic growth

	SDG 8.3.1.	SDG 8.5.1.	SDG 8.7.1.	SDG 8.B.1.
SDG 8.B.1. (Best) to Others	5	4	6	1
Others to SDG 8.7.1. (Worst)	2	3	1	5
Consistency Index: 0.11146497				

SDG11: Sustainable cities and communities

	SDG 11.1.1.	SDG 11.7.2.	SDG 11.C.1.
SDG 11.7.2. (Best) to Others	7	1	8
Others to SDG 11.C.1. (Worst)	4	8	1
Consistency Index: 0.145833333			

SDG12: Responsible consumption and production

	SDG 12.5.1.	SDG 12.7.1.	SDG 12.8.1.	SDG 12.A.1.
SDG 12.5.1. (Best) to Others	1	3	5	4
Others to SDG 12.8.1. (Worst)	6	5	1	4
Consistency Index: 0.1509434				

SDG16: Peace, justice and strong institutions

	SDG 16.5.1.	SDG 16.7.2.	SDG 16.B.1.
SDG 16.B.1. (Best) to Others	6	5	1
Others to SDG 16.7.2. (Worst)	2	1	3
Consistency Index: 0.1875			

SDG17: Partnerships for the goals

	SDG 17.2.1.	SDG 17.6.1.	SDG 17.7.1.	SDG 17.14.1.	SDG 17.18.1
SDG 17.7.1. (Best) to Others	4	2	1	3	6
Others to SDG 17.18.1. (Worst)	4	6	8	5	1
Consistency Index: 0.09375					

Description of the 9-point Likert scale. 1: equal importance, 2: somewhat between equal and moderate, 3: moderately more important, 4: somewhat between moderate and strong, 5: strongly more important, 6: somewhat between strong and very strong, 7: very strongly important, 8: somewhat between very strong and absolute, 9: absolutely more important.

Table 5
Weighting factors for the elements of the rating system.

Dimension	w_i^*	SDG_k	w_{ik}^*	SDG Indicator$_l$	w_{ikl}^*
Social	65.3 %	1	43.4 %	1.5.1.	100 %
		2	28.9 %	2.4.1.	100 %
		4	14.5 %	4.A.1.	100 %
		5	9.6 %	5.4.1	67 %
				5.5.2.	33 %
		11	3.6 %	11.1.1	13.7 %
				11.7.2.	78.6 %
				11.C.1.	7.7 %
Economic	8.2 %	8	56.3 %	8.3.1.	14 %
				8.5.1.	17.5 %
				8.7.1.	9.5 %
				8.B.1.	59 %
		9	35.4 %	9.5.1.	81 %
				9.A.1.	19 %
		10	8.3 %	10.B.1.	100 %
Environmental	10.2 %	12	11.6 %	12.5.1.	52.8 %
				12.7.1.	22.6 %
				12.8.1.	7.6 %
				12.A.1.	17 %
		15	88.4 %	15.2.1.	100 %
Governance	16.3 %	16	59.3 %	16.5.1.	14.6 %
				16.7.2.	16.7 %
				16.B.1.	68.7 %
		17	40.7 %	17.2.1.	12.5 %
				17.6.1.	25 %
				17.7.1.	40.6 %
				17.14.1.	16.7 %
				17.18.1	5.2 %

weights of the social facet. SDG8: Decent work and economic growth (56.3 %) was the most valued in the economic aspect, whilst SDG10: Reduced inequalities (8.3 %) was the least considered. SDG15: Life on land (88.4 %) and SDG16: Peace, justice, and strong institutions (59.3 %) reached the largest factors in environmental and governance categories, respectively.

4.3. Scoring and levels of achievement

The last stage of the Delphi method was meant to define the levels of performance of the examined social enterprises to determine their engagement with the attainment of the 2030 Agenda. All the panelists of the two groups specified jointly the list of indicators to be fully accomplished to reach the thresholds labelled as *"aligned"* and *"very aligned"*. The fulfillment of indicators requires that companies undertake actions clearly related to their scopes. The score of indicators is 1 in such a case, otherwise it is 0. Metrics regarded as essential to achieve the main purpose of the represented SDG constitute the level *"aligned"*, whilst other indicators that assess complementary, but not critical endeavors are included in the tier *"very aligned"* as illustrated in Table 6. By grading the set of indicators shown in Table 5 in a range of 0 or 1 points, the maximum possible score of an enterprise is 100. Furthermore, the rating system differentiates three levels of performance: *"not aligned"* (lower than 49), *"aligned"* (between 49 and 59) and *"very aligned"* (higher than 59).

4.4. Application of the framework to Mondragon Corporation

A cooperative was taken as a case study because it is an expression of

Table 6
Mandatory requirements that define the levels of achievement.

SDG Indicator	Levels of achievement		SDG Indicator	Levels of achievement	
	Aligned	Very aligned		Aligned	Very aligned
1.5.1.			11.C.1.		
2.4.1.	√	√	12.5.1.	√	√
4.A.1.	√	√	12.7.1.	√	√
5.4.1.		√	12.8.1.		
5.5.2.	√	√	12.A.1.	√	√
8.3.1.	√	√	15.2.1.		
8.5.1.		√	16.5.1.		
8.7.1.	√	√	16.7.2.	√	√
8.B.1.	√	√	16.B.1.	√	√
9.5.1.		√	17.2.1.		
9.A.1.			17.6.1.		√
10.B.1.		√	17.7.1.	√	√
11.1.1.			17.14.1.	√	√
11.7.2.	√	√	17.18.1.		√

(√) Requirement to be accomplished to reach the given level of achievement.

sustainable business (Iyer, 2020), which operates on a set of values and principles that predominate over the generation of profits (ILO, International Labor Organization., 2016). The cooperative model also provides an adaptive governance system based on democracy, equity, self-governance, and participation (Barnes et al., 2017) that builds a community spirit (Gibson-Graham, 2003), sense of belonging and identity (Anwar McHenry, 2009) and may support businesses in achieving sustainability (Martin, 2016).

Grassroots management, corporate social responsibility, democratic governance, and social transformation were the main values of a cooperative business project launched in the village of Mondragon (Spain) on 14th April 1956 as the germ of the present Mondragon Corporation, the first holding group in the Basque Country and the tenth in Spain. Mondragon business is divided into four areas (finance, industry, retail, and knowledge) that foster the achievement of social impact (Salvado, 2011). These fields are organized in 96 cooperatives and 14 research centres which operate in 37 countries worldwide with a total revenue of €11,482 million and 79,931 employees in 2020. The EBITDA in that year was €1,324 million, whilst the ratio of shareholders in cooperative workforce amounted to 75.9 % (42.5 % female staff) (Mondragon, 2022). Since Mondragon Corporation meets the selection criteria depicted in subsection 3.4., this company can be considered as a suitable case study.

Table 7 exhibits scores awarded to the indicators of the new framework in line with actions reported by Mondragon Corporation in the 2020 Annual Report (Mondragon, 2020). The application of Equation (4) that also considers weighting factors presented in Table 5 revealed a rate slightly higher than 56. Despite this grade corresponds to the level

"aligned", some mandatory indicators for this tier were not attained, such as SDG 5.5.2: Parity between men and women in senior positions and SDG 16.B.1: Adoption of measures to prevent discrimination and/or harassment. Consequently, the level of performance conferred to Mondragon Corporation was *"not aligned"*.

Only half of the indicators associated to the social dimension had a score of 1. On the other hand, more than 70 % of requirements linked to economic, environmental and governance facets were met. Sustainable agriculture (SDG 2.4.1.), education (SDG 4.A.1.), family conciliation (5.4.1.) and physical or sexual harassment (11.7.2.) concentrated efforts of Mondragon in the social realm. Regarding the economic aspect, research and development (SDG 9.5.1.), prevention of informal employment (SDG 8.3.1.), support to families with disabled people (SDG 8.5.1.), prevention of child labor (SDG 8.7.1.) and social protection (SDG 8.B.1.) occupied the attention of the corporation. Sustainable consumption and production (SDG 12.A.1.), education for sustainable development (SDG 12.8.1.), sustainable procurement policies (SDG 12.7.1.), and recycling and reusing materials (SDG 12.5.1.) were addressed in the environmental dimension. Governance measures were mainly focused on the prevention of bribery (SDG 16.5.1.) and discrimination (SDG 16.B.1.), development of technology (SDG 17.6.1., SDG 17.7.1.), promotion of sustainable development (SDG 17.14.1.) and the elaboration of financial metrics (SDG 17.18.1.).

The new rating system and the assessment conducted in Mondragon Corporation differ in some way from the results of the study performed by UNIDO United Nations Industrial Development Organization (2018) that outlines the influence of social entrepreneurship on the 2030 Agenda through the analysis of 30 social enterprises from 17 countries worldwide. The report discloses that all the 17 SDGs were tackled in varying degrees by the selected enterprises. Like the present research, SDG12: Responsible consumption and production and SDG8: Decent work and economic growth were the most addressed with 22 and 18 enterprises, respectively. The SDG16: Peace, justice and strong institutions (5) and the SDG17: Partnerships for the goals (4) on the contrary were the least appreciated by the organizations examined. The lack of comprehensive information about how Mondragon Corporation covers specifically the 2030 Agenda cannot enable a better understanding of such a difference.

5. Conclusions

The research proposes a new system to assess the alignment of social enterprises to the achievement of the Sustainable Development Goals. Two panels of three experts each and a survey circulated among 100 Spanish practitioners in social entrepreneurship served to build a three-tier hierarchical framework covering 28 indicators representing 12 SDGs. Main conclusions of the study are as follows:

Table 7
Assessment of Mondragon Corporation (Mondragon, 2020).

Dimension	SDG_k	$SDG\ Indicator_l$	$Score_{ikl}$	Dimension	SDG_k	$SDG\ Indicator_l$	$Score_{ikl}$
Social	1	1.5.1.	0	Environmental	12	12.5.1.	1
	2	2.4.1.	1			12.7.1.	1
	4	4.A.1.	1			12.8.1.	1
	5	5.4.1	1			12.A.1.	1
		5.5.2.	0		15	15.2.1.	0
	11	11.1.1	0				
		11.7.2.	1				
		11.C.1.	0	Governance	16	16.5.1.	1
Economic	8	8.3.1.	1			16.7.2.	0
		8.5.1.	1			16.B.1.	1
		8.7.1.	1		17	17.2.1.	0
		8.B.1.	1			17.6.1.	1
	9	9.5.1.	1			17.7.1.	1
		9.A.1.	0			17.14.1.	1
	10	10.B.1.	0			17.18.1.	1

- The effective implementation of the SDGs in business, and more specifically in social enterprises is highly complicated as reflected in the low number of SDGs (12) and SDG indicators (28) adopted by panelists on the new instrument. They represented 70 % and 12 % of total 2030 Agenda items, respectively. Furthermore, the scope of the SDG indicators is hardly applicable to social enterprises as evidenced by the necessary reformulation made of their extents.
- Despite the social nature of social businesses, the governance domain reached the same amount of SDG indicators as the social dimension, which suggests the high importance attached to this facet by experts in the field. However, the social weighting factor (65.3 %) widely prevailed over the governance one (16.3 %).
- In terms of managerial implications, the application of the tool to a large number of social enterprises would enable to compile a list to rank companies. Information gathered in doing so could also help company managers design and implement strategic plans on the pathway to sustainable development.
- The score granted to Mondragon Corporation is consistent with the values associated to cooperatives (Mondragon, 2022) alongside the inherent attributes of social enterprises such as social value, proactiveness and social innovation (Choi, & Majumdar, 2014). For instance, the 14 research centres in operation denote a strong concern on innovation as a driver of change and social value creation (ILO, International Labor Organization., 2016).

Several research limitations were encountered. The nationality of panelists and survey respondents could have decisively influenced the understanding and implementation of the SDGs to the Spanish context and therefore, their consideration in the rating system proposed. For instance, some relevant SDG aspects for other countries can be disregarded in Spain. In the same line, some biases might be reflected in the framework because only a few typologies of social businesses were represented among the panelists. An extension of the research by involving experts from other countries and representatives of the main types of social enterprises could bridge these gaps to make possible the effective use of the system worldwide. Additionally, the application of the tool to conduct the appraisal of Mondragon Corporation revealed serious difficulties in collecting all information necessary from corporate reports, in particular data related to the performance on the SDGs. An in-depth approach that combines corporate reporting and social enterprises could be the subject of another study.

CRediT authorship contribution statement

Jose Manuel Diaz-Sarachaga: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Software, Visualization, Writing – original draft, Writing – review & editing. **Antonio Ariza-Montes:** Validation, Supervision.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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