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Encouraging corporate sustainability through effective strategic partnerships

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Abstract

There is a substantial body of theoretical evidence and a wide variety of recommendations from multilateral agencies on the importance of develop partnerships to achieve sustainability but not all partnerships could be equally effective. The purpose of this study is to establish which characteristics of partnerships could be related to greater improvements in firms' sustainability. To achieve this goal, we based on the resource-based view, to emphasize the importance of expanding firm resources and capabilities through strategic partnerships. The longitudinal panel data used includes information from sustainability reports published by Spanish listed firms between 2016 and 2019. We find evidence that greater *diversity* referring to social sectors involved and longer *duration* partnerships improve sustainability measures, but only in responsive firms (environmentally pollutants). By contrast, in nonresponsive firms, *diversity* and longer-tenure partnerships implied less improvement. Finally, we analyze the implications of these results to build effective partnerships and encourage sustainability.

KEYWORDS

nonresponsive firms, partnership characteristics, responsive firms, strategic partnership, sustainability

1 | INTRODUCTION

Two decades have passed since the United Nations (UN) Secretary-General Kofi Annan announced at the World Economic Forum in 1999 the constitution of the UN Global Compact, describing it as a creative alliance between the UN and the business sector to give to the global market a more human face, encourage greater corporate responsibility and promote partnerships (Kell, 2002; Reed & Reed, 2009). Additionally, the agreed time to achieve the 17 sustainable development goals (SDGs), established as a universal call to end poverty, protect the planet and ensure that all people enjoy peace and prosperity, was 2030 (UN Global Compact, 2015); therefore, more than one-third of the available time has passed.

Business can play a critical role in the achievement of SDGs (Rosati & Faria, 2019); however, firms and other social actors that

have aligned themselves with achieving objectives related to sustainability are still insufficient to reach the proposed objectives. To meet these goals, set out in the SDGs by 2030, it is imperative to close a financial gap that ranges from USD 2 to USD 4 trillion dollars yearly. The main problem, is that resources to address sustainability goals is not properly allocated in most cases (UN Global Compact, 2020). In particular, the 17 SDGs (Partnerships for the goals) emphasize the need to generate new partnerships, in which governments, society and the private sector actively participate. In that sense, SDG 17 is a comprehensive appeal for the implementation of global partnerships, in which the action of all actors leads to genuine sustainability (Colaner et al., 2018).

The literature has approached the term partnership from a variety of perspectives, defined as voluntary collaboration between two or more organizations with a concrete agenda of common interest

(Ashman, 2001; Long & Arnold, 1995). Other references, specify strategic partnerships, as a formal cooperation agreement between agents (Todeva & Knoke, 2005; Trigo & Drudis, 1999). Effective partnerships allow firms promote and strengthen innovation (Arts, 2002; Lee, 2019), establish new forms of production and consumption (Luo & Bhattacharya, 2006; Windolph et al., 2014), the pursuit of legitimacy and reputation among other valuable resources (Arts, 2002; Lee, 2019; Mzembe & Meaton, 2014), however, ideological or cultural barriers -including cognitive aspects- (Selsky & Parker, 2005), social dynamics (Ashman, 2001; Van Hille et al., 2019), legitimacy issues (Arts, 2000; Hahn et al., 2015; Selsky & Parker, 2005; Van Hille et al., 2019), perceptions (Selsky & Parker, 2005), risk tolerance (Hahn et al., 2015), and technical and political complexities (Arts, 2000; Kolk, 2014) tend to be barriers to firms realizing effective partnerships.

Given these complexities aforementioned, examining the role of characteristics in partnerships is highly relevant, as they are expected to define the way in which partnerships are influenced. We propose that, not all partnerships are equally effective. By contrary, some partnership's characteristics may create the conditions that allow firms to develop the resources and compatibilities needed to achieve the partnerships' goals. Specifically, we analyze characteristics directly linked to the firm's possibility to develop resources and capacities to improve sustainability such us congruent relationship (Porter & Kramer, 2019) or longer time perspective (Bowen et al., 2010; Ortiz-de-Mandojana & Bansal, 2016). Also inputs like talent, technology and ideas can make a significant contribution to the creation and acquisition of new competencies (Ortiz-de-Mandojana & Aragon-Correa, 2015). Thus, the characteristics included in the analysis were *aligned*, which encompasses the alignment of the firms' main activity and their corporate strategy with the purpose of the partnership; *duration*, specifying the time horizon envisioned for the partnership and *diversity*, that involves the identity of the organizations involved: business, government, non-governmental organizations—NGOs (which includes civil society) and academia partnerships. Our approach, aims to prove that capturing and fostering these defining characteristics, in an appropriate manner, it is possible to added value inside partnership. Additionally, we propose that the effect of these characteristics could be even more relevant for responsive firms (firms that can generate greater impact on the environment and society) because the existence of these resources and the ability to maneuver them is even more vital to achieve improvements in sustainability.

To test our proposals, we identified partnerships developed among Spanish listed firms through their own sustainability reports during the period 2016–2019. Subsequently, we conduct a panel data analyses to determinate with characteristics of these partnerships lead to improvements in sustainability and whether the responsiveness of the firms moderates this relationship.

The contribution of this study is twofold. On the one hand, we complete literature on partnerships for sustainability. The use of partnerships to achieve sustainability objectives has been highlighted as indispensable in previous literature; nevertheless, there is little empirical research analyzing and proving which characteristics of partnerships can increase their positive impact on

sustainability. We found evidence that the *diversity* and *duration* have a significant impact related to the improvement of global sustainability measures but only in responsive firms (environmentally pollutants). On the other hand, we contribute to the resource-based view by analyzing which type of partnerships can more effectively help to develop the firms' resources and capacities needed to achieve the partnerships' goals. The paper concludes with a discussion about the results obtained, the limitations identified, and future avenues for research.

2 | THEORETICAL FRAMEWORK

2.1 | Strategic partnerships and sustainability

The conceptual development of strategic partnerships was most clearly identified in the 1990s; defined as the voluntary collaboration between two or more organizations with a clear agenda of common interest, focused on achieving discrete and measurable objectives (Ashman, 2001; Long & Arnold, 1995). Also, defined as a "Situation wherein business and nonprofits collaborate and work together to achieve a successful outcome of a collective project(s) initiated primarily to address specific needs that will improve the wellness of communities and society at large" (Eweje & Palakshappa, 2009). Other researchers (Todeva & Knoke, 2005; Trigo & Drudis, 1999; Van Hille et al., 2019), with a more corporate perspective, define a strategic partnership as a formal cooperation agreement between agents (firms), which should have as its main purpose: change the current market position of the agents involved, moving forward to a strategic position that results in differentiation from other firms and a strong leadership (Fontana, 2018).

There have been proposed sources of motivation for firms to engage in partnerships: market success, to promote and strengthen innovation (Arts, 2000; Lee, 2019), establish new forms of production and consumption (Luo & Bhattacharya, 2006; Windolph et al., 2014), the pursuit of legitimacy and reputation (Arts, 2000; Bansal, 2005; Davis, 1973; Lee, 2019; Mzembe & Meaton, 2014; Peteraf, 1993; Rondinelli & London, 2003; Wernerfelt, 1984), shared benefits (Hartman et al., 1999; Rondinelli & London, 2003), even employee satisfaction (Fontana, 2018; Kourula & Halme, 2008). However, stakeholder participation involves the acquisition and management of resources (Donaldson & Preston, 1995; Fontana, 2018; Rangan et al., 2006) and in this process, partnerships include the possibility of expanding these resources and capabilities aforementioned (Fontana, 2018). Resources are heterogeneously and imperfectly allocated by organizations (Barney, 1991; Coff, 1999; Russo & Fouts, 1997); therefore, it is imperative for organizations to obtain it outside their boundaries (Fontana, 2018). Austin and Seitanidi (2012) argue that resources shared among the parties to achieve the established partnership's objective must be balanced; not only economic resources should be involved, but also human and technological resources, otherwise it becomes a normal philanthropic relationship (Bowen et al., 2010; Lee, 2019).

Strategic partnerships have been incorporated over time into a common agenda related to sustainability. The Brundtland report called for governments, businesses, and society to act in alignment for sustainable development and specially to protect the environment. The report mentions the strategic factor of partnerships for achieving the proposed objectives and how small and medium firms need support and a stimulus from the government to undertake cross-sectorial cooperative efforts in areas such as research and development to redefine their products and services (Brundtland et al., 1987. p. 254). The issues introduced in the report were fundamental as a starting point, since there is no doubt that the conception of a new paradigm was in its initial phase; also, the impact of the report was so important that it was able to attract the interest of all actors and embraced the concept of sustainability (Arts, 2002).

Also, scrutiny has prompted firms to give greater relevance to the implementation of strategies to drive their actions along the path of sustainability but is also true that NGOs—such as the World Wide Fund for nature WWF, The International Union for Conservation of Nature IUCN, and Conservation International to name a few—have chosen to close this gap, encouraging the development of partnerships, gradually guiding the private sector to more sustainable practices, also taking advantage of public controversy to force firms to implement improvements in sustainability (Lee, 2019).

2.2 | Characteristics on strategic partnerships and efectiveness

Despite the importance of develop partnerships to achieve sustainability improvements, not all partnerships could be equally effective. In general, leadership (Ashman, 2001; Hartman et al., 1999), shared interests (Ashman, 2001; Fontana, 2018; Hartman et al., 1999; Kolk et al. 2008; Wood & Gray, 1991), understanding (Ashamn, 2001; Fontana, 2018), coincidence of values (Eweje & Palakshappa, 2009), a skilled convenor (Wood & Gray, 1991), the type-duration of interaction (Ashman, 2001; Kolk et al., 2008; Van Huijstee et al., 2007), clarity and confidence regarding the partners' roles (Fontana, 2018; Hartman et al., 1999), issues associated with institutional incentives -e.g., normative distances or gaps in promoting partnerships- (Van Huijstee et al., 2007), balanced power and authority (Todeva & Knoke, 2005), rules and effective communication (Ashman, 2001; Fontana, 2018; Mohr & Spekman, 1994) were identified as the main factors for partnership effectiveness.

In this section we hypothesize that aligned, duration and diversity are partnership's characteristics that may create the conditions that allow firms to develop the resources and compatibilities needed to achieve the sustainability improvements. Additionally, these conditions could be affected by firms' responsiveness because the existence of these resources and the ability to maneuver them is even more vital to achieving improvements in sustainability.

2.2.1 | Partnership aligned with the firm's core business

For Ashman (2001), the closer the core business (business strategy and main activity) of the actors involved with the objective of the partnership, the more successful the partnership and the greater its impact will tend to be. This alignment allows firms to invest and commit more resources, such as people-based-skills to be better integrated in partnerships and produce synergies that are related to improvements in the firms' sustainability. The effectiveness of such partnerships tends to be greater if their objective and scope are aligned and fit with the firms' strategic objectives (Kolk et al., 2008).

Previous studies have identified the importance of including social, economic, and environmental dimensions in business decisions, to meet the needs of all parties involved (Bansal, 2005). Incorporating the three dimensions (the triple bottom line) in a firm's business strategy is a gradual process that involves aligning, in a coordinated manner, business opportunities and the firm's main activity with the needs of society and those of the stakeholders. Porter and Kramer (2019) establish that this congruent relationship between the firm and its stakeholders is clearly a win-win relationship, as it allows firms to create value for society through a common agenda. In a similar way, Mackey and Sisodia (2013) argue that leader firms should invest in the production of goods and services that serve a superior purpose at a global level, reinforcing markets based on synergies aligned with the interests of all those involved and creating a proper environment for innovation. Thus, we can initially argue that to improve sustainability, it is fundamental to align the firms' main activities with the needs of society.

Among the examples that can be cited is WWF's initiative in the 1990s under the slogan "Forests are your business," an agreement with the forestry industry with the aim of achieving environmental sustainability. As a result, a partnership was formed between companies linked to the industry that shared WWF's goal of promoting the purchase and sale of only sustainable timber; later they include the Forest Stewardship Council's FSC certificate, which was established following UNCED's Rio Declaration in 1992, which guarantees that the labeled wood has been sustainably produced. At the same time, environmental groups pressured retailers, stores and warehouses to include FSC wood in their assortments for sale. This partnership and the FSC initiative are, to some extent, a successful achievement and have led to innovative, environmentally friendly and sustainable initiatives (Arts, 2002; Reed & Reed, 2009). Similarly, Starbucks' partnership with Conservation International is an illustration of where partners could engage in a series of collaborative market-oriented projects. By branding the coffee as "Shade Grown Mexico" Starbucks initially aimed for an interactive collaboration for certification. Building on the success of this initiative in Mexico, the partnership expanded into an intensive environmental stewardship that helped Starbucks' coffee department develop purchasing guidelines to increase the sourcing of coffee from biodiversity-friendly farms around the world (Rondinelli & London, 2003). Partnerships are

promises of new styles of governance, which can renew sustainability governance, linking their initiatives to the "core business"; as stand-alone and isolated initiatives, partnerships are "dead-end roads" and lack of success will definitely increase internal tensions (Arts, 2002).

Therefore, based on the aforementioned literature, we suggest that when firms align their core business with the three dimensions of corporate sustainability (social, economic, and environmental), there is a positive effect on sustainability. However, we also consider, based on Ashman's (2001) definition of a strategic partnership and Kolk et al. (2008) considerations, that this effect has a greater impact on sustainability if the partnerships developed among firms are also aligned with the core business of those involved. Thus, we state our first hypothesis as follows:

> **Hypothesis 1.** *Firms that develop partnerships with objectives aligned with their core business present greater sustainability improvements than firms whose partnerships are not related to their core business.*

2.2.2 | Duration of partnerships

Long-term relationships create new opportunities and allow firms to identify critical resources and aspects of the market thanks to the continuous and sustained flow of information received from stakeholders. Lee (2019) argues that "the most seamless form of collaboration" between organizations and businesses is arguably a long-term partnership. Development of valuable resources, such as partner trust, enables long-term solutions that lead to further improvements in firms' sustainability. By contrast, firms with a short-term vision tend to ignore their stakeholders, as they are looking for short-term benefits, without taking into consideration the contributions and benefits of maintaining long-term relationships with the stakeholders (Ortiz-de-Mandojana & Bansal, 2016). This short-term behavior is motivated in part by firms' desire to make actions visible and disclose selective information to the stakeholders in the shortest time possible to take advantage of their partner's reputation (Martínez, 2003). This can avoid the effective implementation of a partnership agreement (Todeva & Knoke, 2005).

Based on Eweje and Palakshappa (2009) empirical research in New Zeland, businesses are reaching into the community through the long-lasting relationships with local organizations (e.g., nonprofits organizations) to achieve more focused results to truly make a difference in terms of sustainability.

Ortiz-de-Mandojana and Bansal (2016) also found evidence that firms with higher social and environmental performance had greater long-term benefits than those with lower performance. Likewise, Jia and Li (2021) develop a firm-based research in Australia composed of 1772 firm-year observations between 2012 and 2018, finding support around the concept that better sustainability performance involve long-run investment.

Giving this, we suggest that firms may show more improvements in sustainability than firms that only consider short-term strategies,

due to engaging in longer-term relationships with their partners and stakeholders. Thus, we propose the second hypothesis:

> **Hypothesis 2.** *Firms with longer duration partnerships show greater improvements in corporate sustainability than firms with shorter duration partnerships.*

2.2.3 | Diversity of the social sectors involved in the partnership

Previous literature agree that firms' actions must take into account environmental, economic, and social considerations for all the stakeholders involved. Thus, firms have the possibility of building relationships with stakeholders, prioritizing the solution of social and environmental problems. In addition, to boost profits, firms should consider the value-added through integrating social, economic, and environmental dimensions in their strategies (Porter & Kramer, 2019).

As social, environmental, and economic challenges become increasingly complex, surpassing the capabilities of any single actor to address them, collaboration among social sectors (cross-sectorial partnerships) becomes necessary to achieve strategic resources (Austin & Seitanidi, 2012; Eweje & Palakshappa, 2009). Cross-sectorial partnerships is defined as the collaborative and voluntary efforts of actors belonging to at least two sectors of society (businesses, government, and civil society organizations), in which they cooperate to address social issues which they identify engaging partners on an ongoing basis (Rangan et al., 2006; Selsky & Parker, 2005; Van Hille et al., 2019).

Colaner et al. (2018) suggest that partnerships and cross-sectorial collaborative schemes could be more effective in providing solutions to social and environmental needs, and at the same time, boosting innovation than more individualistic schemes. Thus, they conclude that there is greater progress if development is achieved through synergies across organizations located in diverse social sectors.

A reason highlighted by Brinkerhoff and Brinkerhoff (2011) for firms to prefer this type of partnerships is that they provide integrated resources and solutions that are appropriate to the scope and nature of the issues the firms are trying to resolve. Cross-sectorial partnerships are a critical factor in accelerating progress and achieving objectives related to sustainability (UN Global Compact & Accenture, 2018). Colaner et al. (2018) identify the limitations that firms face to addressing sustainability issues individually. Further, they identify great opportunities that can be explored by addressing related issues from a collaborative approach that also integrates multiple actors from the public sector, the nonprofit sector like civil society organizations (NGOs), and universities or research centers.

Government plays an important role in promoting spaces in which firms and civil society develop agreements that prioritize general interests and in which common commitments are defined. The success of governments in contributing to strategic partnerships will depend on their interest and whether they provide appropriate resources like institutional structures that establish legitimate

incentives for those who fulfill the objectives of partnerships, being more pluralistic, open representation of interests by all parties (Arts, 2002).

Likewise, the relationship between NGOs and the private sector has been in continuous evolution. An increasing number of NGOs are losing interest in taking the role of passive recipients and executors of donations made by firms (philanthropic or transactional partnerships) and keep being classical, antagonistic and strictly conservation-oriented NGOs (Arts, 2002; Austin & Seitanidi, 2012; Eden, 1996; Kolk et al., 2008; Lee, 2019; Van Huijstee et al., 2011). Currently NGOs form integrative partnerships in which actively promote innovation practices (disruptive social innovations) and drive, through strategic partnerships with governments and firms, the development of entrepreneurial ecosystems that strengthen the value chain of large firms globally (integrative or transformational partnerships) (Austin & Seitanidi, 2012; Bowen et al., 2010; Trujillo, 2018). Moreover, the term "Green Partnerships" emerged to describe the prospect of achieving higher levels of sustainability through coalitions between NGOs and firms (Arts, 2002; Lee, 2019; Stafford et al., 2000). For example, Greenpeace has a long time agreements with business partners, WWF with Unilever, the Bodyshop with Friends of the Earth to design and produce eco-products several years ago; many cases could be mentioned (Arts, 2002; Bendell, 2017).

Also, the consolidation of a sustainable society, involves continuous experiments and new technology development that can be applied in a functional way in firms. Universities and research centers play an important role. First, business managers should continue being trained in sustainable development practices and new collaboration schemes to promote partnerships with a positive impact on society inside organizations. Second, the examination and feasibility of research and scientific analysis addressed to stakeholders, especially to decision-makers in business and government, supporting the reduction of environmental, economic, and social gaps is highly important (Howard-Grenville et al., 2019).

Given this context, it is possible to consider that greater diversity, represented by social sectors involved in partnerships, could result in sustainability improvements, because the challenges and objectives of the partnerships are addressed from multiple approaches and with appropriate resource levels. Therefore, we propose the third hypothesis:

> **Hypothesis 3.** *Firms' partnerships with greater diversity (in terms of social sectors) show greater sustainability improvements than low diversity firms' partnerships.*

2.2.4 | Responsive firms and partnerships' effectiveness for sustainability improvements

Responsive firms (firms that can generate greater impact on the environment and society) could obtain greater sustainability improvements from building more effective partnerships as they have a greater incentive to make substantial changes to improve their

position with stakeholders. The corporate image and societal expectations are important resources that must be managed by firms (Eweje & Palakshappa, 2009). The existence of these resources and the ability to maneuver them is even more vital to achieving improvements in sustainability.

Firms that can generate greater impact on the environment and society need to disclose more information on actions performed that are related to sustainability goals, to gain a greater level of approval from stakeholders and thereby reduce the social pressure they receive due to their activities (Van Staden & Hooks, 2007).Therefore, to ensure the support their legitimacy over time, actions undertaken by responsive firms must result in positive outcomes that benefit society and mitigate the impact generated by industrial activity (Eweje & Palakshappa, 2009). A greater commitment by firms to society is necessary when firms' performance and their viability is highly dependent on the environment in which they operate (O'Donovan, 2002). According to this, partnerships could provide social capital to firms in terms of prestige/reputation, status, and even brand recognition (Rondinelli & London, 2003; Todeva & Knoke, 2005). Also, the issues-management will be driven by the existence of legitimacy gaps trimmed by strategies like partnerships (Eweje & Palakshappa, 2009). Partnerships could be a very important strategy for undertaking actions to counteract those negative impacts related to their operational activity (Eweje & Palakshappa, 2009).

Consequently, responsive firms could obtain greater sustainability improvements from building more effective partnerships as they have a greater incentive to make substantial changes to improve their position with stakeholders. Hence, we propose the final hypothesis set:

> **Hypothesis 4a.** *Partnerships with objectives aligned with their core business have a greater effect on sustainability improvements for responsive firms.*

> **Hypothesis 4b.** *Partnerships with longer duration have a greater effect on sustainability improvements for responsive firms.*

> **Hypothesis 4c.** *Partnerships with a higher diversity of social sectors have a greater effect on sustainability improvements for responsive firms.*

3 | METHODOLOGY

Our analysis was based on listed firms headquartered in Spain that published corporate sustainability reports (nonfinancial reports) between 2016 and 2019. The starting date is established because coincides with the launch of the European Parliament Directive 2014/95/EU requiring firms meeting specific criteria to publish non-financial reports in accordance with established standards and it is one year after the launching of the SDGs established by the UN (2015), which includes especially Goal 17, related to partnerships

for the goals. Data ends in 2019 due to current year most firms had not yet updated information for 2020, which mean a reduction in the size of the listed firms.

Eikon Thomson Reuters Asset4 - Environmental Social and Corporate Governance (ESG) data[1] was used to identify all Spanish firm-period observations available in terms of firms' sustainability performance and access to data for control variables. Initially, 66 firms were identified. Subsequently, the sustainability reports were obtained from the firms' websites to conduct an exhaustive and individual review and extract the information related to the characteristics of the partnerships. In the final panel data, 8 firms were excluded because they did not have information related with at least one independent variable included in the study. After synthesizing the database and deleting missing data, this research obtained a sample of 58 firms (169 observations) remained in the final panel for the model estimation.

3.1 | Measures

Sustainability improvement: We measured sustainability performance based on the ESG score of Eikon Thomson Reuters Asset4 database, as appears by various seminal studies, including Cheng et al. (2014), Eccles et al. (2014), Jia and Li (2021), Liang and Renneboog (2017), Lys et al. (2015) and Michelon et al. (2015). Eikon ESG score is available for 8.334 firms worldwide (2019) and is based on verifiable reported data from public domain (Sustainability reports, annual reports, NGOs websites, company websites, stock exchange filings and news sources), including three dimensions: environmental, social, and corporate governance involving 10 categories (Refinitiv, 2021). For our purpose, this measure was defined as the variation of the Eikon ESG score indicator between two consecutive years ($t - [t - 1]$); we lead the independent and control variables by 1 year to ensure causality.

Characteristics of parnerships: *Aligned*, is a dichotomous variable that takes the value of 1 if the firm's partnership is aligned with the firm's main activity (core business) and 0 when it is not. *Duration* of the partnership, was measured as the number of years since the partnership was formed. Only active partnerships reported in the sustainability report were considered. *Diversity*, is the number of different categories of social actors involved in each firm's partnerships. Four categories were considered: firms, NGOs—civil society organizations, universities—research centers, and government—multilateral organizations.

Responsive firms: Firms that can generate greater impact on the environment and society. In order to create a standard measure, we focus o_2 and CO_2 equivalent emissions (in tons) divided by net sales in a given year by firm included. CO_2-equivalent emissions is a popular measure in academic and technical literatures (Vié et al., 2019) for aggregating different pollutants by multiplying emissions of the different greenhouse gases of each firm. Specifically, Thompson Reuter's metric of CO_2-equivalent includes emissions from methane (CH_4), nitrous oxide (N_2O), hydro fluorocarbons (HFCS), per fluorinated compound (PFCS), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3), each one is weighted by its global warming potential and aggregated to give total greenhouse gas emissions in CO_2 equivalents; these emissions called "Kyoto basket" are the main cause of climate change, being an important global measure of the firm's negative impact on the environment and society considered by United Nations Framework Convention on Climate Change UNFCCC as "heavy-emitters of greenhouse gases."

Control variables: We use return on equity (ROE) and *total assets* (in billions of dollars) to control for financial performance and size, respectively, because previous research has consistently shown that they influence firm size and performance on corporate sustainability (e.g., Beck et al., 2018; Hart & Ahuja, 1996; Sharma, 2000). We also control by *Dividend per share* (*dps*), defined as a corporation's common stock dividends on an annualized basis, divided by the weighted average number of common shares outstanding for the year, to capture the relationship between firms' sustainability performance and earnings quality, providing considerable information useful for firms' decision making (Hart & Ahuja, 1996; Jia & Li, 2021).

4 | RESULTS

Prior to verify the proposed hypotheses, we calculate the means, standard deviations, and Pearson's correlations of the variables included in the models. Table 1 shows that the highest correlation is observed between the *aligned* and *diversity* variable (Pearson correlation coefficient = 0.35). This value might indicate a weak relationship between variables, and consequently, a low probability of multicollinearity among the variables in the model. Additionally, we calculated the variance inflation factor (VIF) after each regression; values were within acceptable limits with any VIF above of 10 indicating that high correlation is not cause for concern. Thus, we proceeded to estimate five models established to test the hypotheses.

To test the models, we used time series panel data analysis using STATA14. This method is superior to analyze a serial time period because it controls for the confounding effect of time-invariant and company-specific variables (Wiersema & Bowen, 1997). The results of the Hausman specification test suggested that a random-effects model was appropriate ([$\chi^2 = 5.00$; $p = 0.8910$]; H0 = random effect is the efficient estimator). Preliminary exploratory analysis of the data using the Wooldridge test (Drukker, 2003; Wooldridge, 2002) shows the existence of first-order autocorrelation problems in our panel data ($F = 65.361$ $p = 0.000$). We also test for panel-level heteroskedasticity using likelihood-ratio test after estimation, which shows the existence of heteroskedastic problems ($\chi^2(49) = 176.97$; $p = 0.000$). According to these preliminary analyses, we estimate random-effects generalized least squares (GLS) models to verify the proposed hypotheses. Additionally, models were estimated by clustering errors to obtain results that are robust to correlations across time series and also to correct for heteroscedasticity problems.

Table 2 reports the random-effects GLS results. It includes the values of the coefficients, significance levels of the variables, and

TABLE 1 Descriptive statistics and correlations of variables used in moderated regression analysis[a]

Variable	Mean	SD	1	2	3	4	5	6	7
1. Total assets	95.71	269.60							
2. DPS	0.66	1.04	−0.12 $p = 0.115$						
3. ROE	0.13	0.12	−0.15* $p = 0.042$	0.14 $p = 0.058$					
4. Aligned	0.72	0.44	−0.03 $p = 0.648$	0.17* $p = 0.023$	−0.20** $p = 0.008$				
5. Duration	3.07	0.89	0.00 $p = 0.979$	0.15* $p = 0.047$	−0.0 $p = 0.506$	0.27*** $p = 0.000$			
6. Diversity	3.28	1.04	−0.08 $p = 0.260$	0.06 $p = 0.387$	−0.17* $p = 0.024$	0.35*** $p = 0.000$	0.17* $p = 0.022$		
7. Responsive firms[b]	0.25	0.58	−0.12 $p = 0.133$	−0.01 $p = 0.872$	−0.11 $p = 0.146$	0.24** $p = 0.002$	0.03 $p = 0.659$	0.33*** $p = 0.000$	
8. Sust. Improvement	2.74	6.02	−0.10 $p = 0.165$	0.20** $p = 0.007$	0.07 $p = 0.348$	−0.14 $p = 0.063$	0.03 $p = 0.824$	−0.18* $p = 0.017$	−0.04 $p = 0.564$

[a]Sust. Improvement is the dependent variable. Table contains Pearson's correlation coefficient. $N = 169$ obs.
[b]Correlations estimated with 154 obs.
*Significant to $p < 0.05$. **Significant to $p < 0.01$. ***Significant to $p < 0.000$.

TABLE 2 Random-effects generalized least squares (GLS) regression results[a]

	Model 1		Model 2		Model 3[b]		Model 4[b]		Model 5[b]	
Control variables										
Total assets	−0.001 $p = 0.174$	(0.00)	−0.002 $p = 0.214$	(0.00)	−0.001 $p = 0.294$	(0.00)	−0.001 $p = 0.277$	(0.00)	−0.002 $p = 0.213$	(0.00)
DPS	−1.135* $p = 0.011$	(0.44)	1.301*** $p = 0.000$	(0.36)	1.20** $p = 0.006$	(0.43)	1.202** $p = 0.006$	(0.43)	1.286** $p = 0.001$	(0.38)
ROE	0.808 $p = 0.820$	(3.30)	−1.581 $p = 0.603$	(3.04)	−0.277 $p = 0.956$	(5.08)	1.032 $p = 0.841$	(5.15)	0.416 $p = 0.935$	(5.08)
Direct effects										
Aligned			−1.963 $p = 0.131$	(1.30)	−0.34 $p = 0.826$	(1.59)	−1.247 $p = 0.345$	(1.32)	−0.983 $p = 0.464$	(1.34)
Duration			0.344 $p = 0.506$	(0.51)	0.068 $p = 0.885$	(0.47)	−0.304 $p = 0.583$	(0.55)	−0.110 $p = 0.826$	(0.50)
Diversity			−0.971** $p = 0.021$	(0.42)	−0.694 $p = 0.167$	(0.50)	−0.779 $p = 0.118$	(0.49)	−1.053* $p = 0.050$	(0.53)
Responsive firms					57.877 $p = 0.149$	(40.10)	−5.052* $p = 0.027$	(2.28)	−8.373* $p = 0.043$	(4.14)
Moderating effects										
Responsive firms X Aligned					−57.747 $p = 0.150$	(40.11)				
Responsive firms X Duration							1.619* $p = 0.016$	(0.67)		
Responsive firms X Diversity									1.181* $p = 0.034$	(0.85)
Constant	2.032** $p = 0.001$	(0.63)	5.867** $p = 0.005$	(2.11)	3.879 $p = 0.070$	(2.14)	6.16* $p = 0.012$	(2.46)	6.58** $p = 0.009$	(2.52)
R^2 overall	$p = 0.050$		$p = 0.107$		$p = 0.100$		$p = 0.093$		$p = 0.096$	
P (Chi²)	$p = 0.017$		$p = 0.001$		$p = 0.031$		$p = 0.010$		$p = 0.018$	

[a]Cluster-robust standard errors by firms are shown in parentheses. $N = 169$ obs.
[b]Estimated with 154 obs.
*Significant to $p < 0.05$. **Significant to $p < 0.01$. ***Significant to $p < 0.000$.

cluster-robust standard errors shown in parentheses. The control variables *total asset*, *roe* and *dps* were included in all the models.

Model 1, the baseline, only includes control variables. Model 2 includes the main effects of the predictor variables, that is *aligned* (Hypothesis 1), *duration* (Hypothesis 2) and *diversity* (Hypothesis 3), as variables that could positively influence firms' improvement in sustainability. As can be seen in Table 2 (Model 2), Hypotheses 1 and 2 are not supported because the coefficients for the variables are not statistically significant. By contrast, for Hypothesis 3, the *diversity* is significant at the 10% level of significance [-0.971; $p = 0.021$]. Based on the negative slope coefficient, we infer that a smaller number of social actors involved in the partnerships tends to improve firms' sustainability. This may imply that developing partnerships with few social actors means being more efficient in achieving the objectives proposed by those involved, thereby resulting in an improvement in sustainability. Therefore, and according to the initial proposal, Hypothesis 3 is not supported.

Models 3, 4, and 5 in Table 2 show the results of the moderation effect of a responsiveness firms on the relationship between the partnership's characteristics (i.e., *aligned*, *duration*, and *diversity*) and the firms' sustainability improvement (Hypotheses 4a, 4b, and 4c). No significant results were found for Hypothesis 4a. In contrast, there was evidence supporting Hypothesis 4b, that is, that the interaction between *responsive firms* and *duration*, was significant (1.619; $p = 0.016$). Figure 1 illustrates these results. As can been seen, a longer *duration* tends to improve the sustainability of responsive firms. However, for nonresponsive firms, a longer time frame implies a smaller improvement in the firms' sustainable performance. As a longer *duration* has a stronger positive effect on corporate improvement for responsive firms, Hypothesis 4b is accepted.

Regarding Hypothesis 4c, Table 2 shows that the interaction between *responsive firms* and *diversity* is significant (1.181; $p = 0.034$). Figure 2 illustrates this result: A larger number of social actors in the partnerships of firms in responsive firms improves the corporate's sustainability indicators. However, for non-responsive firms, a larger diversity of partners leads to less improvement in corporate sustainability. Therefore, the positive effect of diversity in actors is larger for responsive firms and Hypothesis 4c is accepted.
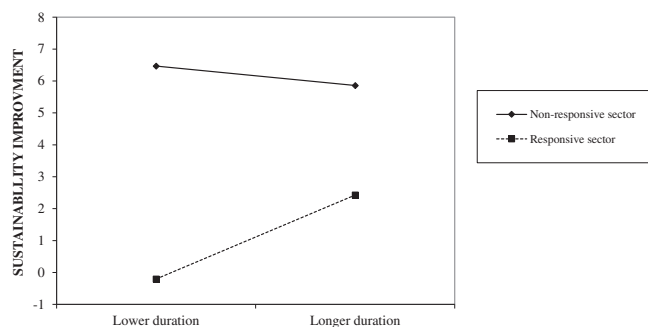
5 | CONCLUSIONS

To achieve sustainability improvements, firms require a substantial set of resources and capabilities. A firm's capacity to seek talent, technology and ideas can make a significant contribution to the creation and acquisition of new competencies (Ortiz-de-Mandojana & Aragon-Correa, 2015); for example, people-based-skills is a highly important valuable resource due to their difficulty to be reproduced (Fontana, 2018; Grant, 1991), probably the most strategically important resources of the firm (Grant, 1991).

There is a substantial body of theoretical evidence and a wide variety of recommendations from multilateral agencies on the importance of develop partnerships to shared resourced and achieve sustainability improvements (Eweje & Palakshappa, 2009), for example, SDGs and complementary international initiatives that promotes compliance such as the UN Global Compact.

According with previous literature, firms can bring their economic potential in partnerships, while other organizations can bring their environmental expertise, public image and knowledge (Arts, 2002). This combination of resources and capabilities can produce a very powerful partnership for sustainability. However, not all partnerships are equally effective to achieve this positive outcome. In this paper, we propose that there are characteristics of partnerships that affect their effectiveness to improve sustainability and specially for responsive firms, because the existence of the required resources and capabilities and the ability to maneuver them is even more vital to achieving improvements in sustainability.

Our results shows that the direct effects on partnership *aligned* with the firm's core business and *duration* related to partnerships are not supported since the coefficients for these variables were not statistically significant. The *diversity* has a significant effect for improvements in sustainability. However, contrary to the expected relationship, we find that a lower *diversity* leads to larger improvements in corporate sustainability.

The moderating effects analysis help to explains these main effects. While the results of a larger positive influence of *duration* and *diversity* for responsive firms are congruent with the arguments
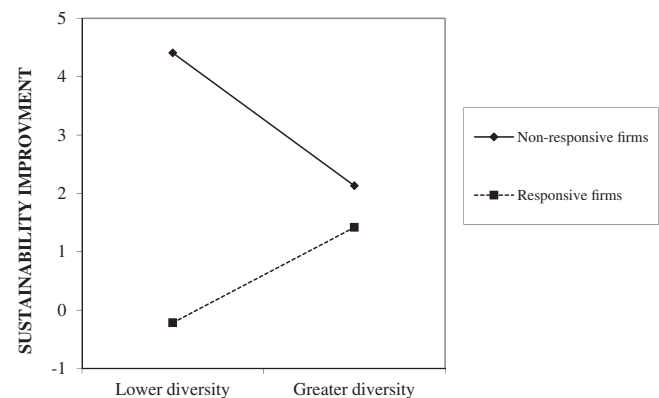

FIGURE 1 The moderating role of *responsive firms* and *duration*

FIGURE 2 The moderating role of *responsive firms* and *diversity*

presented in the theoretical section, we find a negative effect for nonresponsive firms. The reason for this result is that responsive firms can derive more improvements in sustainability from partnerships and experience greater pressure to make real changes in sustainability instead of only symbolic or superficial actions. The fact of having more social pressure increases the commitment of *diversity* participants, which helps to develop the positive effects of partnerships (knowledge sharing, creativity, trust, long-term solutions). Without this commitment derived from pressure, partnerships can become mere symbols that do not allow the real development of capabilities that enable improvements in sustainability and can even be obstacles, since efforts are dispersed and there may be coordination problems.

It is important to note that the main effects of the *diversity* on the improvement of sustainability are negative, on average. This may be because for nonresponsive firms, the positive effect that can be derived from the *diversity* is lower than the coordination problems that can arise from the cooperation of a wide range of actors. It is recommended that the complexity of the partnerships (*diversity*) should be adjusted to the needs of the firm. Nevertheless, future research may investigate other characteristics or complementary factors that could explain this result.

To achieve results over time (*duration*) in sustainability, partnerships must exhibit a longer duration for responsive firms. In contrast, nonresponsive firms, may be assuming a greater risk in establishing longer time partnerships, as well as compromise their image and resources with minimal impact on the environment due to their activities or organizational policies. In this case, the return of a partnership in terms of improved sustainability performance may be low for nonresponsive firms.

This paper has important managerial implications. In this sense, it is important to understand the critical role of the conveners' partnerships, like business leaders, for moving toward an agenda that promotes partnerships involving sustainability, because they establish, legitimize, and guide the collaborative partnership (Van Hille et al., 2019; Wood & Gray, 1991). It was estimated that 90% of business leaders feel the commitment and responsibility that their firm should have a decisive role in society, and approximately 85% of them highlight cross-sector partnerships as the critical factor that will accelerate progress and establish a concrete agenda to achieve the 2030 SDGs (UN Global Compact & Accenture, 2018). This study allows business leaders to better understand the positive outcomes relates to partnerships. Additionally, our conclusions could be useful for police markers and multilateral agencies to design better recommendations to promote sustainability.

The main contribution of the present study was filling the literature gap on the characteristics of collaborative processes (strategic partnerships). In particular, we analyzed which characteristics are more effective for these collaborations to improve sustainability indicators. Likewise, the study also contributes to the literature on sustainability, connecting previous research with the literature on corporate partnerships. Additionally, we contribute to the resource-based view by

analyzing which type of partnerships can more effectively help to develop the firms' resources and capacities needed to achieve the partnerships' goals.

The present study has some limitations. First, the small number of firms that publish sustainability reports did not allow the examination of a wider range of firms in the statistical analysis. In future studies, a larger number of firms could be added and new legislation may make it possible to persuade more firms to publish sustainability reports. Furthermore, this study focuses on Spanish firms and could be replicated in different contexts or even including new variables representing other partnership characteristics that would extend the research scope.

The current social, environmental, and economic challenges for businesses are increasingly complex and, therefore, require holistic solutions and greater involvement of all social actors. In this context, collaboration and strategic partnerships among sectors of society should be developed, focusing on expand resources and capabilities to promote sustainability. Our study also shows that for firms that need larger improvements in sustainability, that is, those belonging to responsive sectors, longer partnerships with other social actors can generate larger improvements in sustainability performance. This indicates the importance of SDG 17, "Strengthen the means of implementation and revitalize the global partnership for sustainable development" (UN, 2015).

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ENDNOTE

[1] Eikon Thomson Reuters is a tool that provides financial and technical information on firms at a global level, mainly used for trading and investment decisions.

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